

A WORKBOOK FOR
Arithmetic We Need

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CURRICULUM

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Do You Remember What Numbers Mean?

The picture shows some of the ways in which we use numbers every day.

The work on this page will help you to remember some of the things you have learned about numbers.

1. Write these numbers in figures:

a. -----

b. 7 tens and 9 ones -----

c. Three hundred seven -----

d. 14 tens and 5 ones -----

e. Ninety-eight -----

f. -----

g. One hundred fifty-four -----

h. 29 tens and 0 ones -----

2. Finish: 1 hundred = ----- tens.

3. The number 863 has ----- tens in all.

4. In the numbers below, find all the 2's that are in ten's place. Put a dot under each of them.

5 2 8	7 3 4	2 4 7	4	7 0 2
2 9	4 1	1 4	7 2 2	2 7 0

5. In the same numbers, put an X on each of the 4's that are in one's place.

6. Draw a ring around each of the 7's that are in hundred's place.

7. 285 means 2 ----- and ----- tens and 5 -----

285 also means ----- tens and ----- ones.

8. When we write "five hundred two" in figures, we write ----- in ten's place to keep the 5 in ----- place.

9. The Roman number VI means -----

10. The Roman number IX means -----

What Numbers Mean

A

	Hundreds	Tens	Ones
98 =	9	8	
34 =	3	4	
623 =	6	2	3
405 =	4	0	5

B

	Hundreds	Tens	Ones
a.			
b.			
c.			

Box A. 98 is a 2-place number. 8 is in one's place; it means 8 ones. 9 is in ten's place; it means 9 tens, or 90.

1. 34 is a _____-place number. _____ is in one's place; 3 is in _____ place. So 3 means 3 _____, or 30.

2. 623 is a _____-place number. 6 is in hundred's place; it means 6 hundreds, or _____. The 2 means 2 _____, or _____. The 3 means 3 _____.

3. 405 is a _____-place number. The 4 means 4 _____, or _____. The 0 means no _____. The 5 means 5 _____.

The 0 in 405 is also a place-holder to keep the other figures in their places.

Whether a figure means ones or tens or hundreds, and so on, is shown by the place of that figure in a number.

4. In box B write these numbers:

a. 4 is in one's place, 8 is in hundred's place, and 5 is in ten's place.

b. 8 is in hundred's place, 0 is in one's place, and 9 is in ten's place.

c. 0 is in ten's place, 6 is in one's place, and 9 is in hundred's place.

In the number 235, the 2 stands for 2 hundreds. It also stands for 20 tens, so in 235 there are 23 tens in all.

5. In 596, there are _____ tens in all.

6. The number 387 means _____

hundreds and 8 _____ and

7 _____, or $300 + 80 + \dots$

The number 387 also means 38 tens and

7 _____, or $380 + \dots$

7. 843 means 8 _____

and _____ tens and 3 _____,

or _____ + 40 + _____.

Or 843 means 84 _____

and _____ ones, or _____ + 3.

8. 760 means _____ hundreds and _____

tens and _____ ones, or $700 + \dots$

+ _____.

Or 760 means 76 _____

and _____ ones, or _____ + _____.

Do You Remember about Addition and Subtraction?

Use the work on this page to find out how well you remember about addition and subtraction. The work on the following pages will help you to become better at adding and subtracting.

Circle "Yes" or "No" for your answer.

1. Do these examples have the same sum:
 $4 + 7 + 8$ and $8 + 4 + 7$?

Yes No

2. If you add 0 to a number, is the sum "up 1"?

Yes No

3. To find the difference between two numbers, should you subtract?

Yes No

4. Do you begin to add at the left?

Yes No

5. Can you subtract only like-numbers and like-groups?

Yes No

6. In the example $853 - 748$, must you borrow a ten?

Yes No

7. To find the other part of a number, should you add?

Yes No

Write the missing words or numbers.

8. You can add 6 boys and 7 girls only by thinking of them as

9. When you cannot subtract ones in an example, you borrow a

10. $91 - 6$ is in the subtraction family.

11. In the example $648 + 70$, you must carry a

12. To find the number gone, you should

13. The answer to an addition example is called the

In rows 14 to 16, add or subtract as the signs tell you.

	a	b	c	d	e	f	g	h	i
14.	6	8¢	27	62	37	\$4.16	349	245	638
	<u>+9</u>	<u>+5¢</u>	<u>+9</u>	<u>+33</u>	<u>+55</u>	<u>+3.82</u>	<u>+208</u>	<u>+592</u>	<u>+179</u>
15.	17	14¢	32	86	41	\$1.65	547	848	915
	<u>-8</u>	<u>-9¢</u>	<u>-7</u>	<u>-52</u>	<u>-17</u>	<u>-0.82</u>	<u>-203</u>	<u>-139</u>	<u>-453</u>
16.	8	89¢	34	6	22	302	700	315	641
	3	<u>-70¢</u>	25	0	9	<u>-76</u>	<u>-418</u>	72	<u>-284</u>
	<u>+9</u>		<u>+18</u>	<u>+7</u>	<u>+31</u>			<u>+291</u>	

When We Add



1. Numbers stand for groups. Look at the pictures above. The number 2 tells how many ducks are in group A.

The number tells how many ducks are coming to the pond in picture B.

2. The groups are together in picture C.
The number tells how many ducks are in this new, larger group.

In words, the put-together story for the ducks is, "Two ducks plus (or and) three ducks are ducks."

We write the number story this way:

$$2 + 3 = 5$$

To show how many there are in a group, you can use a number.

When you put groups together to find how many in all, you are adding.

3. 4 cats and 2 cats are cats.
4. 5 frogs and 4 frogs are frogs.
5. In Ex. 1 to 4, are the things we put together alike?

When numbers stand for groups of things which are alike in some way, they are called like-numbers.

Only like-numbers can be added.

Sometimes we must change the names of the groups before we can add.

6. To add 6 hammers and 5 saws, we can think of the things in both groups as tools. Then we can *think*, "6 tools and 5 tools are tools."

7. To add 5 roses and 3 tulips, we can write, "5 flowers and 3 flowers are flowers."

8. To add 7 men and 2 women, we can write, "7 people and people are people."

9. To add 3 horses and 8 cows, we can write, "..... animals and animals are animals."

10. When we add, we find the total number, or sum. In Ex. 6 to 9, was each sum larger than any of the numbers you added to get it?

The sum is larger than any number added except when two numbers are added and one of them is 0.

TO BE GOOD AT ADDING, YOU MUST

- a. know the A. facts very well.
- b. add figures downward.
- c. start to add at the right. Add first the ones, then the tens, and then the hundreds.
- d. write figures in their correct places.
- e. know when and how to carry.
- f. check your work by adding upward.
- g. be careful in all your work.

Do You Know the Addition Facts?

To add quickly, you must know the addition (A.) facts.
Write the sums.

	a	b	c	d	e	f	g	h	i	j	k
1.	$\begin{array}{r} 9 \\ + 5 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ + 8 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ + 4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ + 9 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 8 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ + 9 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ + 8 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ + 9 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ + 4 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 9 \\ \hline \end{array}$
2.	$\begin{array}{r} 9 \\ + 3 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ + 5 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ + 2 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 6 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ + 8 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ + 9 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ + 6 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ + 3 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ + 6 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ + 9 \\ \hline \end{array}$
3.	$\begin{array}{r} 9 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ + 6 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ + 6 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ + 5 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ + 9 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ + 5 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ + 8 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ + 8 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ + 3 \\ \hline \end{array}$
4.	$\begin{array}{r} 4 \\ + 8 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ + 6 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ + 8 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ + 2 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ + 9 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ + 9 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 5 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ + 4 \\ \hline \end{array}$

If you need more practice, use page 142 in this workbook. Use study cards for hard facts.

TO HELP YOU WHEN YOU ADD

- a. When you add 0 and another number, the sum is the other number.
- b. When you add 1 and another number, the sum is "up 1."
- c. When you add 2 and another number, the sum is "up 2."
- d. When the numbers to be added are nearly equal, you can use a double.
- e. When the sum of any two 1-place numbers is more than 10, you can find the sum by making a 10-group and then adding the ones that are left.

Learning and Using Addition Families

A

26	6	86	6
<u>+ 2</u>	<u>+ 42</u>	<u>+ 2</u>	<u>+ 32</u>

B

9	19	49	9
<u>+ 38</u>	<u>+ 8</u>	<u>+ 8</u>	<u>+ 78</u>

1. The examples in box A are in the $6 + 2$ A. family. The one's figure in each sum will be Is $6 + 2$ less than 10? Will the ten's figure in each sum be "up 1"?

Think the sums. Write them in box A.

Write two examples in the A. family for:

2. $5 + 4$

3. $6 + 3$

Write the name of the A. family for each of these examples:

4. $60 + 4$

5. $43 + 5$

6. The examples in box B are in the $9 + 8$ A. family. The one's figure in each sum will be Is $9 + 8$ more than 10? Will the ten's figure in each sum be "up 1"?

Write the sums in box B.

Write two examples in the A. family for:

7. $8 + 5$

8. $3 + 9$

Write the name of the A. family for each of these examples:

9. $52 + 8$

10. $7 + 25$

In row 11, make a check mark (✓) over each example in which the ten's figure in the sum will be "up 1." Then write the sums in rows 11 and 12.

	a	b	c	d	e	f	g	h	i	j
11.	53 <u>+ 4</u>	7 <u>+ 31</u>	42 <u>+ 9</u>	65 <u>+ 6</u>	8 <u>+ 40</u>	81 <u>+ 9</u>	7 <u>+ 37</u>	23 <u>+ 8</u>	81 <u>+ 5</u>	9 <u>+ 50</u>
12.	49 <u>+ 6</u>	8 <u>+ 14</u>	4 <u>+ 23</u>	36 <u>+ 5</u>	49 <u>+ 4</u>	2 <u>+ 26</u>	9 <u>+ 17</u>	42 <u>+ 5</u>	87 <u>+ 8</u>	45 <u>+ 8</u>

Addition without Carrying. Checking Addition

A. 5	B. 7	C. 13	D. 9	E. 20
8	9	5	6	4
<u>+ 6</u>	<u>+ 8</u>	<u>+ 9</u>	<u>+ 8</u>	<u>+ 7</u>

1. Ex. A. Add downward. Look at 5 and 8; *think*, "13." Look at 6; *think*, "19." Write the sum under Ex. A.

2. Ex. B. Add. Write the sum under the example.

3. Check by adding upward. For Ex. A, *think*, "14, 19." For Ex. B, *think*, "-----, -----."

4. Ex. C: Look at 13 and 5; *think*, "18." Look at 9; *think*, "-----." Write the sum under Ex. C.

5. Add in Ex. D and E and write the sums under the examples.

6. Box F. Add first ones, then tens, and then hundreds.

Ones: Look at 6 and 2;

think, "-----."

Tens: Look at 0 and 9;

think, "-----."

Hundreds: Look at 3 and 5; *think*,

"-----." Write the sum in box F.

Write the sums. To check, add upward.

a	b	c	d
7. 25	76	451	264
<u>+ 44</u>	<u>+ 203</u>	<u>+ 127</u>	<u>+ 35</u>

8. 26	423	186	117
<u>+ 73</u>	<u>+ 135</u>	<u>+ 500</u>	<u>+ 481</u>

F	Hundreds	Tens	Ones
3	0	6	
<u>+ 5</u>	<u>9</u>	<u>2</u>	

Bird Stories



Do your work for these problems on another sheet of paper. Write your answers on the lines after the problems.

1. One winter day 23 birds came to Bill's feeding station in the morning, and 15 came in the afternoon. How many birds came in all that day?

2. One robin's nest had 4 eggs, another had 6, and another had 5. How many eggs were there in all?

3. Ted watched a robin's nest for 2 hours. The robins brought food to their babies 36 times the first hour and 42 times the second hour. That was how many times in all?

4. A cuckoo ate 253 tent caterpillars in one day. Another cuckoo ate 314. How many caterpillars did both birds eat?

Carrying in Addition



1. How many stamps in both sets?

Count them. How many?

The A. example is $25 + 18 = ?$ It is worked in box A.

Ones: $5 + 8 = 13$, or 1 ten and 3 ones. Write "3" in one's place and carry 1 ten.

Tens: $1 + 2 + 1 = \dots\dots\dots$

Check by adding upward.

In addition, you carry when the sum of the ones is 10 or more.

A

$$\begin{array}{r} \overset{1}{25} \\ + 18 \\ \hline 43 \end{array}$$

Add in row 2.

a	b	c	d	e
2. 17	48	51	79	35
<u>+ 46</u>	<u>+ 13</u>	<u>+ 29</u>	<u>+ 15</u>	<u>+ 37</u>

3. $271 + 383 = ?$ (Box B)

Ones: *Think* and write

Tens: $7 + 8 = 15$; but 15

tens = 1 hundred and 5 tens. Write -----

in ten's place; carry 1 hundred.

Hundreds: $1 + 2 + 3 = \dots\dots\dots$

You carry hundreds like tens.

Add in row 4. Check your work.

a	b	c	d
4. 346	290	487	62
<u>+ 82</u>	<u>+ 175</u>	<u>+ 362</u>	<u>+ 277</u>

B

$$\begin{array}{r} \overset{1}{271} \\ + 383 \\ \hline 654 \end{array}$$

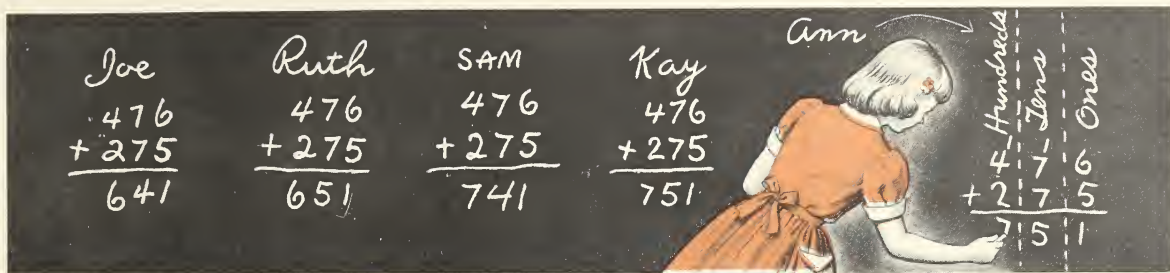
Practice in Adding

Add and check. Be careful! Sometimes you do not need to carry.

a	b	c	d	e	f	g	h	i
1. 55	63	72	38	59	46	34	52	30
<u>+ 17</u>	<u>+ 16</u>	<u>+ 19</u>	<u>+ 29</u>	<u>+ 16</u>	<u>+ 50</u>	<u>+ 39</u>	<u>+ 38</u>	<u>+ 28</u>

2. 212	407	415	38	645	149	453	69	43
<u>+ 96</u>	<u>+ 329</u>	<u>+ 43</u>	<u>+ 80</u>	<u>+ 209</u>	<u>+ 320</u>	<u>+ 154</u>	<u>+ 490</u>	<u>+ 229</u>

More about Carrying



Look at the work on the board. Some of the children made mistakes. Try to find the mistakes in their work.

1. Did Joe remember to carry? -----

2. Did Ruth carry a ten? -----

Did she carry a hundred? -----

3. Did Sam carry a ten? -----

Did he carry a hundred? -----

4. Did Kay carry both a ten and a hundred? ----- Is her work correct? -----

5. Does Ann's work explain how to carry in the example? -----

Sometimes you carry both tens and hundreds.

Circle examples in row 6 in which you must carry both a ten and a hundred.

a	b	c	d	e
6. 453	88	352	382	289
<u>+95</u>	<u>+476</u>	<u>+376</u>	<u>+99</u>	<u>+452</u>
448	564	728	471	731

7. Cross out wrong figures in the sums in row 6.

Add in rows 8 and 9. Check your work.

8.	87	275	463	47	548
	<u>+377</u>	<u>+366</u>	<u>+367</u>	<u>+88</u>	<u>+279</u>
9.	306	284	539	65	127
	<u>+98</u>	<u>+447</u>	<u>+262</u>	<u>+95</u>	<u>+579</u>

Finding Sums

Add and check. Watch for carrying!

	a	b	c	d	e	f	g	h	i
1.	216	88	334	216	78	44	249	547	363
	<u>+305</u>	<u>+67</u>	<u>+602</u>	<u>+87</u>	<u>+60</u>	<u>+39</u>	<u>+170</u>	<u>+239</u>	<u>+345</u>
2.	36	287	59	535	600	358	214	609	243
	<u>+42</u>	<u>+338</u>	<u>+384</u>	<u>+295</u>	<u>+274</u>	<u>+48</u>	<u>+378</u>	<u>+278</u>	<u>+467</u>

Harder Column Addition

A. $\begin{array}{r} 7 \\ 8 \\ 6 \\ + 5 \end{array}$	B. $\begin{array}{r} 9 \\ 5 \\ 7 \\ + 8 \end{array}$	C. $\begin{array}{r} 27 \\ 16 \\ 33 \\ + 18 \end{array}$	D. $\begin{array}{r} 41 \\ 7 \\ 4 \\ + 25 \end{array}$
--	--	--	--

1. Ex. A. *Think*, “15, _____, _____.”
Write the sum under Ex. A.

2. Ex. B. *Think*, “14, _____, _____.”
Write the sum.

3. Ex. C. Ones: *Think*, “13, _____, _____.”
Write “4”; carry 2 (tens).

Tens: *Think*, “4, 5, 8, 9.” Write “9.”

4. Ex. D. Ones: *Think*, “8, _____, _____.” Write _____; carry _____ (ten).

Tens: *Think*, “5, _____.”

Write _____.

5. Box E. *Think*, “14, _____, _____.”

Write the sum in box E.

6. Box F. Add ones, then tens, then hundreds. Write the sum in the box.

E

$$\begin{array}{r} 6 \\ 8 \\ 9 \\ 7 \\ + 5 \end{array}$$

F

$$\begin{array}{r} 408 \\ 89 \\ + 345 \end{array}$$

Add in row 7. Work carefully!

	a	b	c	d	e	f	g	h	i	j
7.	$\begin{array}{r} 308 \\ 49 \\ + 247 \end{array}$	$\begin{array}{r} 283 \\ 109 \\ + 465 \end{array}$	$\begin{array}{r} 8 \\ 6 \\ 3 \\ 9 \\ + 7 \end{array}$	$\begin{array}{r} 50 \\ 7 \\ 8 \\ + 26 \end{array}$	$\begin{array}{r} 39 \\ 48 \\ 42 \\ + 64 \end{array}$	$\begin{array}{r} 7 \\ 0 \\ 9 \\ 9 \\ + 9 \end{array}$	$\begin{array}{r} 65 \\ 8 \\ 23 \\ + 24 \end{array}$	$\begin{array}{r} 8 \\ 56 \\ 8 \\ + 63 \end{array}$	$\begin{array}{r} 4 \\ 9 \\ 6 \\ 9 \\ + 7 \end{array}$	$\begin{array}{r} 32 \\ 47 \\ 63 \\ + 81 \end{array}$

Does the Sum Change?

1. Have the examples $5 + 9$ and $9 + 5$
the same sum? _____

2. Have the examples $8 + 37$ and $37 + 8$
the same sum? _____

3. Is the sum for $2 + 3 + 1 + 4$ the
same as the sum for $1 + 2 + 4 + 3$?

4. Write the sums for Ex. a and Ex. b.

a.
$$\begin{array}{r} 426 \\ + 208 \end{array}$$

b.
$$\begin{array}{r} 208 \\ + 426 \end{array}$$

Are the sums the same? _____

5. Does changing the order of the numbers
in an addition example change the sum?

Practice in Adding

a	b	c	d	e	f	g	h	i	j
1. 146	88	7	58	8	4	26	15	5	60
<u>+32</u>	<u>+97</u>	0	46	8	73	85	8	8	3
		8	5	9	8	40	79	0	45
		9	<u>+4</u>	8	<u>+79</u>	<u>+97</u>	<u>+8</u>	9	<u>+8</u>
		<u>+0</u>		<u>+8</u>				<u>+7</u>	
2. 208	312	17	212	24	9	415	24	64	309
<u>+64</u>	<u>+65</u>	8	100	38	18	106	59	178	108
		<u>+24</u>	<u>+65</u>	<u>+97</u>	<u>+746</u>	<u>+89</u>	<u>+8</u>	<u>+8</u>	<u>+275</u>

An Addition Test

See how many of these A. examples you can get right.

a	b	c	d	e	f	g	h	i	j
1. 145	29	63	204	43	6	8	8	7	43
<u>+659</u>	<u>+180</u>	<u>+9</u>	<u>+587</u>	78	9	49	9	5	59
				49	5	53	9	3	27
				<u>+80</u>	8	<u>+81</u>	0	9	<u>+60</u>
					<u>+6</u>		<u>+7</u>	<u>+0</u>	
2. 628	314	86	715	42	23	538	5	208	400
85	<u>+483</u>	<u>+52</u>	9	<u>+56</u>	0	104	<u>+22</u>	<u>+96</u>	<u>+29</u>
<u>+12</u>			<u>+216</u>		<u>+9</u>	<u>+263</u>			

Work problems 3 to 6 on another sheet of paper.

Write your answers on the lines after the problems.

3. A baker made 29 cakes on Monday and 34 cakes on Tuesday. That was how many cakes for the two days?

4. In four turns in a game, Frank scored 6, 8, 3, and 9 points. Find his total score.

5. The Lost River Ranch had 352 cows and the Flying X Ranch had 585 cows. In all, there were how many cows on the two ranches?

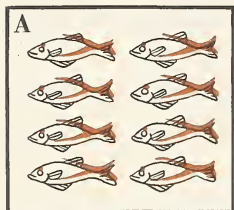
6. At the party there were 12 girls, 9 boys, and 4 grown people. How many people in all were at the party?

When We Subtract

You know that only like-numbers can be added. In subtraction, too, you must have like-numbers to work with.

Only like-numbers can be subtracted.

1. Joe has eaten 3 of his 8 candy fish. How many of his fish are left?



a. Picture A. Cross

out 3 fish for the ones

Joe ate. How many are

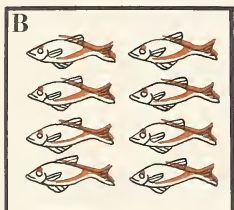
left?

b. To find the number left, or the remainder, you can subtract. Three ways to write the number story are shown below. Finish each one.

3 fish from 8 fish is fish.

8 minus 3 = $8 - 3 = \dots\dots\dots$

2. Ann has only 2 of her 8 candy fish left. How many has she eaten?



a. Picture B. Draw a

ring around the 2 fish

that are left. Count the

others. How many are gone?

b. You can subtract to find how many are gone. Finish the number story in these three ways:

2 fish from 8 fish is fish.

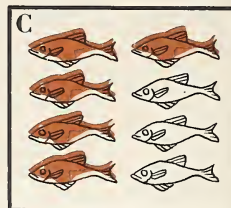
8 minus 2 = $8 - 2 = \dots\dots\dots$

3. Five of Jack's 8 fish are red. The rest are white. How many are white?

a. Look at picture C.

How many of the fish

are white?



b. To find the other part of a number, you can subtract. The number is 8. One part is 5. Finish the number story in these three ways:

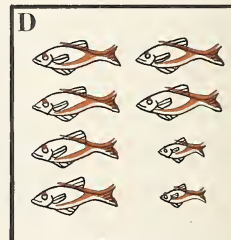
5 fish from 8 fish is fish.

8 minus 5 = $8 - 5 = \dots\dots\dots$

4. Mary has 6 large fish and 2 small fish. She has how many more large fish than small fish?

You can subtract to compare two numbers. You find the difference between them.

Look at the fish in picture D. Finish these number stories:



6 fish are more than 2 fish.

$6 - 2 = \dots\dots\dots$

Or you can say,

2 fish are fewer than 6 fish.

$6 - 2 = \dots\dots\dots$

We subtract to find

- a. how many left; c. the other part;
- b. how many gone; d. the difference.

TO BE GOOD AT SUBTRACTING, YOU MUST

- a. know all the S. facts.
- b. begin to subtract at the right, first the ones, then the tens, then the hundreds.
- c. write figures in the correct places.
- d. know when and how to borrow.
- e. check by adding the answer to the number you subtracted.
- f. be careful in all your work.

Do You Know the Subtraction Facts?

Write just the answers (the remainders) for these subtraction (S.) facts.

a	b	c	d	e	f	g	h	i	j	k
1. $\begin{array}{r} 15 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -9 \\ \hline \end{array}$
2. $\begin{array}{r} 11 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 18 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ -8 \\ \hline \end{array}$
3. $\begin{array}{r} 14 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ -7 \\ \hline \end{array}$
4. $\begin{array}{r} 16 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ -8 \\ \hline \end{array}$

If you need more practice, use page 142 in this book.
Use study cards for hard facts.

TO HELP YOU WHEN YOU SUBTRACT

- a. To find any S. fact, you can use some other fact in its whole story.
- b. When you subtract 0 from another number, the answer is that number.
- c. When you subtract a number from an equal number, the answer is 0.
- d. To find a S. fact which is almost like a double, you can use the double.
- e. To subtract from a teen number, you can think of the number as a 10 and some ones. Subtract first from the 10. Then add the ones to that remainder.

Learning and Using Subtraction Families

A

9	49	89	29	99
<u>-4</u>	<u>-4</u>	<u>-4</u>	<u>-4</u>	<u>-4</u>

B

13	43	73	93	53
<u>-5</u>	<u>-5</u>	<u>-5</u>	<u>-5</u>	<u>-5</u>
8	38			

1. The S. examples in box A are in the 9 - 4 S. family. The one's figure in each answer will be

In these examples, must you borrow a ten? Are the ten's figures changed in the answers?

Write the answers in box A.

Write two examples in the S. family for:

2. 8 - 6

3. 7 - 7

Write the name of the S. family for each of these examples:

4. 35 - 2

5. 97 - 3

6. The examples in box B are in the 13 - 5 S. family. In each answer the one's figure will be The ten's figure will be "down 1."

Finish writing remainders in box B.

Write two examples in the S. family for:

7. 15 - 9

8. 13 - 7

9. 12 - 6

Write the name of the S. family for each of these examples:

10. 81 - 8

11. 74 - 7

12. 60 - 5

In row 13, circle each example in which the ten's figure in the answer will be "down 1." Then write answers for rows 13 and 14.

a	b	c	d	e	f	g	h	i	j
13. 40	21	34	59	76	82	50	75	43	54
<u>-3</u>	<u>-9</u>	<u>-5</u>	<u>-6</u>	<u>-5</u>	<u>-6</u>	<u>-8</u>	<u>-7</u>	<u>-6</u>	<u>-4</u>

14. 60	56	26	89	27	64	48	82	74	31
<u>-4</u>	<u>-7</u>	<u>-4</u>	<u>-5</u>	<u>-9</u>	<u>-6</u>	<u>-5</u>	<u>-9</u>	<u>-8</u>	<u>-3</u>

Easy Subtraction Examples

A. $\begin{array}{r} 76 \\ -41 \\ \hline 35 \end{array}$	B. $\begin{array}{r} 858 \\ -340 \\ \hline \end{array}$	C. $\begin{array}{r} 479 \\ -63 \\ \hline 416 \end{array}$	D. $\begin{array}{r} 138 \\ -88 \\ \hline \end{array}$
--	---	--	--

In subtraction examples like those above, subtract first ones, then tens, then hundreds.

1. Ex. A. Ones: For 1 from 6, *think*, "5." Write "5" in one's place in the remainder.

Tens: For 4 from 7, *think*, "-----."

Write ----- in ten's place.

Check by adding the remainder (35) to the number you subtracted (41). Add upward. Is 35 the correct remainder?

2. Ex. B. Ones: *Think*, "-----."

Tens: *Think*, "-----."

Hundreds: *Think*, "-----." Write the remainder under the example.

3. Ex. C. Check the work. Is the remainder, 416, correct? -----

4. Ex. D. Work the example. Do you get 50 for the remainder? -----

5. Write the remainders.

$\begin{array}{r} 87 \\ -47 \\ \hline \end{array}$	$\begin{array}{r} 119 \\ -82 \\ \hline \end{array}$	$\begin{array}{r} 460 \\ -20 \\ \hline \end{array}$	$\begin{array}{r} 963 \\ -830 \\ \hline \end{array}$	$\begin{array}{r} 147 \\ -63 \\ \hline \end{array}$
--	---	---	--	---

Subtract in rows 6 and 7. Check your work.

	a	b	c	d	e	f	g	h	i
6.	$\begin{array}{r} 79 \\ -17 \\ \hline \end{array}$	$\begin{array}{r} 86 \\ -73 \\ \hline \end{array}$	$\begin{array}{r} 453 \\ -51 \\ \hline \end{array}$	$\begin{array}{r} 192 \\ -22 \\ \hline \end{array}$	$\begin{array}{r} 154 \\ -93 \\ \hline \end{array}$	$\begin{array}{r} 246 \\ -21 \\ \hline \end{array}$	$\begin{array}{r} 137 \\ -75 \\ \hline \end{array}$	$\begin{array}{r} 165 \\ -91 \\ \hline \end{array}$	$\begin{array}{r} 107 \\ -64 \\ \hline \end{array}$

7.	$\begin{array}{r} 60 \\ -20 \\ \hline \end{array}$	$\begin{array}{r} 48 \\ -46 \\ \hline \end{array}$	$\begin{array}{r} 868 \\ -844 \\ \hline \end{array}$	$\begin{array}{r} 175 \\ -83 \\ \hline \end{array}$	$\begin{array}{r} 456 \\ -35 \\ \hline \end{array}$	$\begin{array}{r} 777 \\ -723 \\ \hline \end{array}$	$\begin{array}{r} 349 \\ -206 \\ \hline \end{array}$	$\begin{array}{r} 144 \\ -82 \\ \hline \end{array}$	$\begin{array}{r} 309 \\ -108 \\ \hline \end{array}$
----	--	--	--	---	---	--	--	---	--

Can You Do These?

1. Finish the example in the box so that you will carry a hundred.

$$\begin{array}{r} 468 \\ +30 \\ \hline \end{array}$$

2. On the lines below, write two examples in the $6 + 7$ addition family.

Find the sums in row 3.

	a	b	c	d
3.	$\begin{array}{r} 23 \\ 46 \\ 80 \\ +68 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ 48 \\ 69 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 7 \\ 8 \\ 9 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 306 \\ 284 \\ +175 \\ \hline \end{array}$

Borrowing a Ten in Subtraction

1. To make a 64-page book, Mary has only 36 sheets of paper. How many more does she need?

Box A. Ones: Can you subtract 6 from 4? -----

Box B shows what to do.

64 = 6 tens and 4 ones. We

borrow a ten; that is, we

change the 6 tens and 4 ones to ---- tens

and ----- ones. Then we can subtract.

A

$$\begin{array}{r} 64 \\ - 36 \\ \hline \end{array}$$

B

Tens	Ones
6	4
5	14
6	4
2	8

When you cannot subtract the ones, you borrow a ten.

Cross out wrong figures in remainders.

	a	b	c	d	e
2.	$\begin{array}{r} 81 \\ - 48 \\ \hline 33 \end{array}$	$\begin{array}{r} 70 \\ - 46 \\ \hline 34 \end{array}$	$\begin{array}{r} 621 \\ - 219 \\ \hline 402 \end{array}$	$\begin{array}{r} 174 \\ - 68 \\ \hline 116 \end{array}$	$\begin{array}{r} 743 \\ - 219 \\ \hline 534 \end{array}$

Work the examples in row 3 and check your work.

3.	$\begin{array}{r} 783 \\ - 108 \\ \hline \end{array}$	$\begin{array}{r} 95 \\ - 29 \\ \hline \end{array}$	$\begin{array}{r} 193 \\ - 79 \\ \hline \end{array}$	$\begin{array}{r} 660 \\ - 647 \\ \hline \end{array}$	$\begin{array}{r} 184 \\ - 57 \\ \hline \end{array}$
----	---	---	--	---	--

Subtract and check. (Sometimes you do not borrow.)

	a	b	c	d	e	f	g	h	i
4.	$\begin{array}{r} 828 \\ - 519 \\ \hline \end{array}$	$\begin{array}{r} 42 \\ - 34 \\ \hline \end{array}$	$\begin{array}{r} 980 \\ - 519 \\ \hline \end{array}$	$\begin{array}{r} 507 \\ - 207 \\ \hline \end{array}$	$\begin{array}{r} 181 \\ - 52 \\ \hline \end{array}$	$\begin{array}{r} 52 \\ - 29 \\ \hline \end{array}$	$\begin{array}{r} 155 \\ - 70 \\ \hline \end{array}$	$\begin{array}{r} 766 \\ - 618 \\ \hline \end{array}$	$\begin{array}{r} 35 \\ - 26 \\ \hline \end{array}$
5.	$\begin{array}{r} 106 \\ - 16 \\ \hline \end{array}$	$\begin{array}{r} 91 \\ - 66 \\ \hline \end{array}$	$\begin{array}{r} 765 \\ - 115 \\ \hline \end{array}$	$\begin{array}{r} 777 \\ - 348 \\ \hline \end{array}$	$\begin{array}{r} 611 \\ - 404 \\ \hline \end{array}$	$\begin{array}{r} 124 \\ - 33 \\ \hline \end{array}$	$\begin{array}{r} 118 \\ - 24 \\ \hline \end{array}$	$\begin{array}{r} 522 \\ - 115 \\ \hline \end{array}$	$\begin{array}{r} 423 \\ - 405 \\ \hline \end{array}$

How Large Are Remainders?

Find remainders in rows 1 and 2.

1.	$\begin{array}{r} 16 \\ - 9 \\ \hline \end{array}$	$\begin{array}{r} 69 \\ - 37 \\ \hline \end{array}$	$\begin{array}{r} 487 \\ - 205 \\ \hline \end{array}$	$\begin{array}{r} 112 \\ - 82 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ - 5 \\ \hline \end{array}$
2.	$\begin{array}{r} 43 \\ - 6 \\ \hline \end{array}$	$\begin{array}{r} 82 \\ - 19 \\ \hline \end{array}$	$\begin{array}{r} 371 \\ - 158 \\ \hline \end{array}$	$\begin{array}{r} 135 \\ - 74 \\ \hline \end{array}$	$\begin{array}{r} 27 \\ - 8 \\ \hline \end{array}$

3. In rows 1 and 2, is each remainder smaller than the number you subtracted from?

The remainder is smaller than the number you subtract from, except when you take away 0.

In each (), put X on the answer that must be too large.

4. $86 - 15 = (101 \quad 71)$

5. $45 - 8 = (37 \quad 53)$

6. $249 - 35 = (214 \quad 284)$

7. $98 - 67 = (165 \quad 31)$



At the Beach

Work problems 1 to 6 on another sheet of paper. Write your answers on the lines after the problems.

1. Bill's mother took Bill and Joe to the beach. To get there, they drove 23 miles. They came home a short way and drove only 17 miles. How many fewer miles did they drive coming home?

2. Bill and Joe picked up driftwood for the fire. Mother said they would need 15 pieces. Joe found 7 pieces. How many more pieces did they need?

3. They brought 12 hot dogs. After lunch, 4 hot dogs were left. How many hot dogs had been eaten?

4. Joe found 36 shells, and Bill found 24 shells. Joe found how many more shells than Bill did?

5. Bill had 95¢. He bought a beach ball for 79¢. How much money did Bill have then?

6. At 3 o'clock, Mother said they must start for home at 5 o'clock. How many hours longer could they stay?

Borrowing a Hundred in Subtraction

1. In box A, can you subtract ones?

Can you subtract tens?

Look at box B. Borrow 1 hundred (10 tens) from the 7 hundreds. Add the borrowed 10 tens to the 5 tens of 759. Subtract, and write the answer.

A		
	7	5 9
	—	8 6
B		
Hundreds	Tens	Ones
7	5	9
—	8	6

When you cannot subtract the tens, you must borrow a hundred.

Subtract and check in rows 2 and 3.

a	b	c	d	e
2. 563	227	876	253	744
— 93	— 184	— 95	— 170	— 74
3. 854	670	419	377	286
— 60	— 590	— 176	— 84	— 96

Finding Remainders

Write the remainders. Check your work.

	a	b	c	d	e	f	g	h	i
1.	$\begin{array}{r} 817 \\ -47 \\ \hline \end{array}$	$\begin{array}{r} 694 \\ -687 \\ \hline \end{array}$	$\begin{array}{r} 918 \\ -509 \\ \hline \end{array}$	$\begin{array}{r} 678 \\ -345 \\ \hline \end{array}$	$\begin{array}{r} 626 \\ -490 \\ \hline \end{array}$	$\begin{array}{r} 734 \\ -64 \\ \hline \end{array}$	$\begin{array}{r} 653 \\ -361 \\ \hline \end{array}$	$\begin{array}{r} 943 \\ -38 \\ \hline \end{array}$	$\begin{array}{r} 962 \\ -772 \\ \hline \end{array}$
2.	$\begin{array}{r} 511 \\ -221 \\ \hline \end{array}$	$\begin{array}{r} 456 \\ -104 \\ \hline \end{array}$	$\begin{array}{r} 319 \\ -76 \\ \hline \end{array}$	$\begin{array}{r} 949 \\ -357 \\ \hline \end{array}$	$\begin{array}{r} 395 \\ -205 \\ \hline \end{array}$	$\begin{array}{r} 857 \\ -96 \\ \hline \end{array}$	$\begin{array}{r} 990 \\ -247 \\ \hline \end{array}$	$\begin{array}{r} 179 \\ -93 \\ \hline \end{array}$	$\begin{array}{r} 520 \\ -330 \\ \hline \end{array}$

Borrowing both a Ten and a Hundred

1. Box A. Can you subtract the ones?

Put X on wrong figures in remainders.

----- the tens? -----

Box B. Borrow a ten to

make ----- ones. Then

subtract ones. $14 - 5 = \dots$

Borrow a hundred to

make ----- tens in all.

$15 - 9 = \dots$

Hundreds: $7 - 3 = \dots$

Sometimes you borrow both a ten and a hundred.

A		
	8	64
	-	395
B		
Hundreds	Tens	Ones
7	15	14
	8	64
	-	395
	4	69

	a	b	c	d
2.	$\begin{array}{r} 634 \\ -98 \\ \hline 546 \end{array}$	$\begin{array}{r} 920 \\ -646 \\ \hline 284 \end{array}$	$\begin{array}{r} 733 \\ -247 \\ \hline 596 \end{array}$	$\begin{array}{r} 825 \\ -37 \\ \hline 888 \end{array}$

Subtract and check in rows 3 to 5.

3.	$\begin{array}{r} 841 \\ -269 \\ \hline \end{array}$	$\begin{array}{r} 434 \\ -389 \\ \hline \end{array}$	$\begin{array}{r} 756 \\ -508 \\ \hline \end{array}$	$\begin{array}{r} 755 \\ -168 \\ \hline \end{array}$
4.	$\begin{array}{r} 362 \\ -95 \\ \hline \end{array}$	$\begin{array}{r} 945 \\ -596 \\ \hline \end{array}$	$\begin{array}{r} 836 \\ -357 \\ \hline \end{array}$	$\begin{array}{r} 662 \\ -296 \\ \hline \end{array}$
5.	$\begin{array}{r} 417 \\ -139 \\ \hline \end{array}$	$\begin{array}{r} 222 \\ -174 \\ \hline \end{array}$	$\begin{array}{r} 528 \\ -359 \\ \hline \end{array}$	$\begin{array}{r} 953 \\ -678 \\ \hline \end{array}$

Write the remainders. Check your work.

	a	b	c	d	e	f	g	h	i
6.	$\begin{array}{r} 952 \\ -297 \\ \hline \end{array}$	$\begin{array}{r} 343 \\ -95 \\ \hline \end{array}$	$\begin{array}{r} 520 \\ -431 \\ \hline \end{array}$	$\begin{array}{r} 834 \\ -445 \\ \hline \end{array}$	$\begin{array}{r} 175 \\ -88 \\ \hline \end{array}$	$\begin{array}{r} 679 \\ -198 \\ \hline \end{array}$	$\begin{array}{r} 720 \\ -342 \\ \hline \end{array}$	$\begin{array}{r} 849 \\ -279 \\ \hline \end{array}$	$\begin{array}{r} 909 \\ -604 \\ \hline \end{array}$
7.	$\begin{array}{r} 824 \\ -56 \\ \hline \end{array}$	$\begin{array}{r} 928 \\ -889 \\ \hline \end{array}$	$\begin{array}{r} 970 \\ -755 \\ \hline \end{array}$	$\begin{array}{r} 546 \\ -177 \\ \hline \end{array}$	$\begin{array}{r} 437 \\ -268 \\ \hline \end{array}$	$\begin{array}{r} 719 \\ -79 \\ \hline \end{array}$	$\begin{array}{r} 240 \\ -165 \\ \hline \end{array}$	$\begin{array}{r} 571 \\ -392 \\ \hline \end{array}$	$\begin{array}{r} 620 \\ -36 \\ \hline \end{array}$

0's in the Number You Subtract from

1. Box A. Can you subtract the ones?

Put X on wrong figures in remainders.

Can you subtract the tens?

$$\begin{array}{r} \text{A} \\ 600 \\ -247 \\ \hline \end{array}$$

Box B. $600 = 60$ tens. Borrow 1 ten and change it to 10 ones. Then $600 = 59$ tens and 10 ones, or 5 hundreds and 9 tens and 10 ones. Do the subtracting and write the remainder in box B.

$$\begin{array}{r} \text{B} \\ \overset{5}{\cancel{6}}\overset{9}{\cancel{0}}\overset{10}{\cancel{0}} \\ -247 \\ \hline \end{array}$$

2. Box C. Change 701 to 69 tens and 11 ones. Subtract, and write the remainder in box C.

$$\begin{array}{r} \text{C} \\ 701 \\ -693 \\ \hline \end{array}$$

3. Box D. The borrowing has been done for you. Study the example and finish the subtraction.

$$\begin{array}{r} \text{D} \\ \overset{7}{\cancel{8}}\overset{10}{\cancel{X}}\overset{17}{\cancel{X}} \\ -439 \\ \hline \end{array}$$

	a	b	c	d
4.	$\begin{array}{r} 900 \\ -781 \\ \hline 229 \end{array}$	$\begin{array}{r} 802 \\ -323 \\ \hline 479 \end{array}$	$\begin{array}{r} 500 \\ -94 \\ \hline 416 \end{array}$	$\begin{array}{r} 616 \\ -457 \\ \hline 169 \end{array}$

Subtract in rows 5 to 9.

5.	$\begin{array}{r} 811 \\ -456 \\ \hline \end{array}$	$\begin{array}{r} 400 \\ -372 \\ \hline \end{array}$	$\begin{array}{r} 308 \\ -99 \\ \hline \end{array}$	$\begin{array}{r} 413 \\ -176 \\ \hline \end{array}$
----	--	--	---	--

6.	$\begin{array}{r} 900 \\ -232 \\ \hline \end{array}$	$\begin{array}{r} 711 \\ -47 \\ \hline \end{array}$	$\begin{array}{r} 614 \\ -565 \\ \hline \end{array}$	$\begin{array}{r} 480 \\ -167 \\ \hline \end{array}$
----	--	---	--	--

7.	$\begin{array}{r} 706 \\ -352 \\ \hline \end{array}$	$\begin{array}{r} 814 \\ -188 \\ \hline \end{array}$	$\begin{array}{r} 630 \\ -21 \\ \hline \end{array}$	$\begin{array}{r} 417 \\ -168 \\ \hline \end{array}$
----	--	--	---	--

8.	$\begin{array}{r} 503 \\ -428 \\ \hline \end{array}$	$\begin{array}{r} 606 \\ -276 \\ \hline \end{array}$	$\begin{array}{r} 800 \\ -54 \\ \hline \end{array}$	$\begin{array}{r} 711 \\ -251 \\ \hline \end{array}$
----	--	--	---	--

9.	$\begin{array}{r} 805 \\ -548 \\ \hline \end{array}$	$\begin{array}{r} 690 \\ -403 \\ \hline \end{array}$	$\begin{array}{r} 600 \\ -16 \\ \hline \end{array}$	$\begin{array}{r} 918 \\ -746 \\ \hline \end{array}$
----	--	--	---	--

A Subtraction Test

This test has all kinds of subtraction examples. See how many you can get right.

	a	b	c	d	e	f	g	h	i
1.	$\begin{array}{r} 68 \\ -35 \\ \hline \end{array}$	$\begin{array}{r} 317 \\ -109 \\ \hline \end{array}$	$\begin{array}{r} 800 \\ -516 \\ \hline \end{array}$	$\begin{array}{r} 134 \\ -44 \\ \hline \end{array}$	$\begin{array}{r} 537 \\ -258 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ -46 \\ \hline \end{array}$	$\begin{array}{r} 803 \\ -45 \\ \hline \end{array}$	$\begin{array}{r} 846 \\ -612 \\ \hline \end{array}$	$\begin{array}{r} 511 \\ -375 \\ \hline \end{array}$
2.	$\begin{array}{r} 624 \\ -48 \\ \hline \end{array}$	$\begin{array}{r} 776 \\ -478 \\ \hline \end{array}$	$\begin{array}{r} 671 \\ -198 \\ \hline \end{array}$	$\begin{array}{r} 80 \\ -27 \\ \hline \end{array}$	$\begin{array}{r} 74 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 825 \\ -419 \\ \hline \end{array}$	$\begin{array}{r} 162 \\ -59 \\ \hline \end{array}$	$\begin{array}{r} 600 \\ -443 \\ \hline \end{array}$	$\begin{array}{r} 209 \\ -103 \\ \hline \end{array}$
3.	$\begin{array}{r} 932 \\ -387 \\ \hline \end{array}$	$\begin{array}{r} 93 \\ -73 \\ \hline \end{array}$	$\begin{array}{r} 303 \\ -288 \\ \hline \end{array}$	$\begin{array}{r} 500 \\ -229 \\ \hline \end{array}$	$\begin{array}{r} 707 \\ -526 \\ \hline \end{array}$	$\begin{array}{r} 648 \\ -98 \\ \hline \end{array}$	$\begin{array}{r} 88 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 700 \\ -181 \\ \hline \end{array}$	$\begin{array}{r} 75 \\ -38 \\ \hline \end{array}$

Adding and Subtracting Money Numbers

You add and subtract money numbers like other numbers. Cents always take two places. Keep the cent points in line, and write the dollar sign (\$) at the left of the number.

1. Box A. Check the work.

The correct sum is -----

2. Box B. Check the work.

Add or subtract in rows 3 to 7.

a	b	c	d
3. \$ 2.67	\$ 1.17	\$ 7.18	\$ 5.38
<u>+ 4.23</u>	<u>- 0.49</u>	<u>- 0.19</u>	<u>+ 0.79</u>

A

\$0.89
+ 2.55
\$3.42

B

\$8.65
- 2.89
\$5.76

a	b	c	d
4. \$ 8.00	\$ 2.53	\$ 4.04	\$ 8.52
<u>- 1.36</u>	<u>+ 4.89</u>	<u>- 1.36</u>	<u>- 4.50</u>
5. \$ 0.87	\$ 8.54	\$ 6.05	\$ 4.35
<u>+ 3.86</u>	<u>- 0.57</u>	<u>- 5.69</u>	<u>+ 2.98</u>
6. \$ 8.78	\$ 8.23	\$ 1.60	\$ 9.60
<u>- 1.98</u>	<u>- 3.16</u>	<u>+ 5.78</u>	<u>- 7.90</u>
7. \$ 2.76	\$ 5.35	\$ 1.18	\$ 4.87
<u>+ 3.79</u>	<u>- 3.18</u>	<u>- 0.34</u>	<u>+ 3.27</u>

The Romans and Their Numbers



For their numbers the Romans used letters instead of figures as we do. They wrote all the numbers to 50 by using these letters:

I = 1 V = 5 X = 10 L = 50

1. Some Roman numbers are made by adding.

II = 1 + 1 = 2 VI = 5 + 1 = -----

XVIII = 10 + 5 + 1 + 1 + 1 = -----

2. Here are some other adding numbers. Write these numbers our way.

XV = ----- XXXI = -----

XX = ----- XVII = -----

VIII = ----- XXVI = -----

3. Some Roman numbers are made by subtracting. Between 1 and 50 there are three numbers that are made in this way.

IV means 1 from 5, or 4.

IX means 1 from 10, or -----

XL means 10 from 50, or -----

Study these three Roman numbers until you are sure that you know them. Then go on to the next page.

Many Roman numbers are made by writing the pairs of letters for 4, 9, and 40 with other letters and then adding the values. To read these numbers, first look for the pairs IV, IX, and XL.

4. To read the number XIV, first see IV, which means Then *think*, "XIV means $10 + 4$, or"

5. For XXIX, *think*, "IX means Then XXIX means $10 + 10 + 9$, or"

6. For XLIV, *think*, "XL means 40, and IV means Then XLIV means +, or 44."

7. XIX means $10 + \dots$, or

8. Write these Roman numbers our way.

XXIV = XXV =

XLIX = XXXIX =

XXXIV = XLII =

9. In our number 11, what does the 1 at the left mean? What does the 1 at the right mean?

10. In the Roman number II, what does the I at the left mean? What does the I at the right mean?

Does the value of the I change when it is in a different place in a number?
.....

Chapter Test 1

Add or subtract. Watch for carrying and borrowing.

	a	b	c	d	e	f	g	h
1.	$\begin{array}{r} 610 \\ -472 \\ \hline \end{array}$	$\begin{array}{r} 568 \\ +38 \\ \hline \end{array}$	$\begin{array}{r} 759 \\ -377 \\ \hline \end{array}$	$\begin{array}{r} \$1.23 \\ -0.57 \\ \hline \end{array}$	$\begin{array}{r} 132 \\ -45 \\ \hline \end{array}$	$\begin{array}{r} 688 \\ -489 \\ \hline \end{array}$	$\begin{array}{r} 75 \\ +649 \\ \hline \end{array}$	$\begin{array}{r} \$0.97 \\ -0.57 \\ \hline \end{array}$

2.	$\begin{array}{r} 906 \\ -138 \\ \hline \end{array}$	$\begin{array}{r} 237 \\ +736 \\ \hline \end{array}$	$\begin{array}{r} 163 \\ -73 \\ \hline \end{array}$	$\begin{array}{r} \$8.15 \\ +1.05 \\ \hline \end{array}$	$\begin{array}{r} 72 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 621 \\ -178 \\ \hline \end{array}$	$\begin{array}{r} 538 \\ +270 \\ \hline \end{array}$	$\begin{array}{r} \$2.43 \\ -0.89 \\ \hline \end{array}$
----	--	--	---	--	---	--	--	--

	a	b	c	d	e	f	g	h	i	j
3.	$\begin{array}{r} 7 \\ 4 \\ 0 \\ 6 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 45 \\ 6 \\ +32 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ 8 \\ 6 \\ 6 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ 7 \\ 8 \\ 7 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ 72 \\ 36 \\ +51 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ 6 \\ 7 \\ 8 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 72 \\ 303 \\ +85 \\ \hline \end{array}$	$\begin{array}{r} 315 \\ 206 \\ +182 \\ \hline \end{array}$	$\begin{array}{r} 30 \\ 42 \\ 53 \\ +89 \\ \hline \end{array}$	$\begin{array}{r} 481 \\ 8 \\ +217 \\ \hline \end{array}$

2



A



B



C



D

What Time Is It?

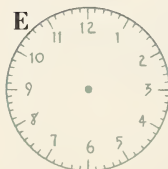
Look at the clocks above. Then finish Ex. 1 to 4.

1. Clock A shows half past _____, or 30 minutes past _____. We write this 2:30.

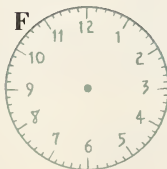
2. Clock B shows quarter past _____, or _____ minutes past _____. We write this _____.

3. Clock C shows _____ minutes before _____, or _____ minutes past 7. We write this _____.

4. Clock D shows _____ minutes before _____, or _____ minutes past _____. We write this _____.



E



F



G

5. Draw hands on clocks E to G to show these times:

Clock E. 11:20

Clock F. 3:50

Clock G. 19 minutes before 2

6. 12:00 M. means twelve o'clock noon.

2:00 A.M. means two o'clock in the _____.

2:00 P.M. means _____ o'clock in the _____.

7. Finish this table of time:

_____ seconds (sec.) = 1 minute (min.)

_____ min. = 1 hour (hr.)

_____ hr. = 1 day (da.)

_____ da. = 1 week (wk.)

_____ months (mo.) = 1 year (yr.)

_____ da. = 1 yr.

_____ da. = 1 leap year

8. For Ex. a to c, write A.M. or P.M.

a. The movie begins at 2:30 _____

b. Breakfast is at 7:30 _____

c. The store opens at 9:15 _____

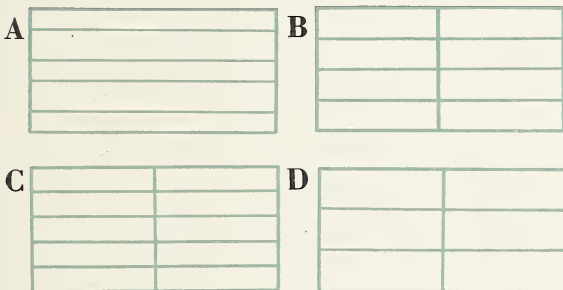
9. Write the name of a month that has 30 days. _____

Fraction Names for Equal Parts of Wholes



1. Tom has marked the board to saw it into ---- equal pieces. The fraction name for each part is one -----.

2. The fraction name for each equal part of the flag at the left is one -----.



3. Copy the letter of the rectangle

a. that shows eighths. -----

b. that shows tenths. -----

c. that shows sixths. -----

4. Rectangle A is divided into 5 parts.

Are the parts equal? -----

Can we give each part the same fraction name? -----

To tell about one of the equal parts of a whole, we use a number called a fraction. The fraction names the part and tells how large it is.

5. Draw lines between things that have the same meaning.

one third — $\frac{1}{3}$ one ninth $\frac{1}{10}$

one eighth $\frac{1}{6}$ one fourth $\frac{1}{7}$

one sixth $\frac{1}{5}$ one tenth $\frac{1}{9}$

one fifth $\frac{1}{8}$ one seventh $\frac{1}{4}$

6. Divide square E into fourths. On each part write its fraction name in figures.



7. Divide square F into sixths. On each part write its fraction name in figures.

8. Square G is divided into halves. Change it to show eighths. On each part write its name.



9. Each part of circle H

H is ----- Each part of

circle I is ----- Are the

thirds equal? -----



10. The little apple and the big apple have both been divided into halves. Are all the halves equal?



Two fractions, such as $\frac{1}{4}$ and $\frac{1}{5}$, are equal only if the wholes are equal.

When We Multiply



1. How many wheels on the 3 wagons?

a. Count by 1's. How many?

b. Count by 4's: 4,,

c. Add 4's: $4 + 4 + 4 =$

d. Multiply. You can write the work in three ways:

$$\begin{array}{r} 4 \\ \text{three 4's} = \text{-----} \\ \times 3 \end{array}$$

$$3 \times 4 = \text{-----}$$

For all three ways we say, "Three 4's are 12." \times is the multiplication sign.



2. How many legs on the 5 stools?

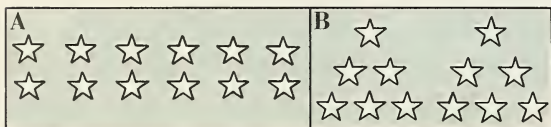
a. Count by 1's. How many?

b. Count by 3's: 3, 6,,,

c. Add: $3 + 3 + 3 + 3 + 3 =$

$$\begin{array}{r} 3 \\ \text{d. Multiply: five 3's} = \text{-----} \\ \times 5 \end{array}$$

$$5 \times 3 = \text{-----}$$



3. Which star picture shows six 2's?

Write its letter here.

4. In box C make a dot picture for $2 + 2 + 2 + 2$. Then finish the work that is started below.

C

$$\begin{array}{r} 2 \\ \text{four 2's} = \text{-----} \\ \times \end{array}$$

$$\text{-----} \times 2 = \text{-----}$$

To find a total, you can add or multiply. Multiply instead of adding if the groups or numbers are equal.

Write Ex. 5 to 7 as multiplication (M.) examples in three ways. Write the answers.

$$\begin{array}{r} 5 \\ \text{5. } 5 + 5 + 5 \\ 3 \times \text{-----} = \text{-----} \\ \times \end{array}$$

three 's =

$$\begin{array}{r} 7 \\ \text{6. } 7 + 7 \\ 2 \times \text{-----} = \text{-----} \\ \times \end{array}$$

two 's =

$$\begin{array}{r} 4 \\ \text{7. } 4 + 4 \\ 2 \times \text{-----} = \text{-----} \\ \times \end{array}$$

two 's =

Write Ex. 8 to 11 as A. examples.

8. four 3's

9. three 6's

10. 2×3

$$\begin{array}{r} 2 \\ \text{11. } \\ \times 5 \end{array}$$

Put \checkmark before the A. examples in which you cannot multiply.

---- 12. $3 + 3 + 3$

---- 14. $8 + 8 + 8$

---- 16. $8 + 4 + 4 + 4$

---- 13. $3 + 1 + 5$

---- 15. $2 + 8 + 7 + 6$

---- 17. $2 + 2 + 2 + 2$

Do You Know the Multiplication Facts?

Write the products. Use study cards for hard facts.

	a	b	c	d	e	f	g	h	i	j
1.	$\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 0 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 1 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$
2.	$\begin{array}{r} 3 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 0 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 1 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 4 \\ \hline \end{array}$
3.	$\begin{array}{r} 4 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 1 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 0 \\ \times 3 \\ \hline \end{array}$

TO BE GOOD AT MULTIPLYING YOU MUST

- know all the M. facts.
- multiply first ones, then tens, then hundreds.
- know when and how to carry.
- write the figures in the answers in their correct places.
- know how to check your work (by multiplying again).
- be careful in all your work.

THESE RULES WILL HELP YOU WHEN YOU MULTIPLY

- When you multiply 0 by any number, the product is 0.
- When you multiply a number by 1, the product is that number.
- When you multiply 1 by a number, the product is that number.
- When you multiply a number by 2, the product is the same as the sum when you add two equal numbers.

Tables of Multiplication Facts for 4's and for 4



1. Count the books above by 4's and write the numbers on the lines.

Finish Ex. 2 to 7. Use the picture for help, to find how many books are

2. in 4 piles. $4 \times 4 = \text{-----}$

3. in 8 piles. $\text{-----} \times 4 = \text{-----}$

4. in 6 piles. $\text{-----} \times 4 = \text{-----}$

5. in 5 piles. $5 \times \text{-----} = \text{-----}$

6. in 9 piles. $9 \times \text{-----} = \text{-----}$

7. in 7 piles. $\text{-----} \times 4 = \text{-----}$

Put X on wrong products (answers).

8. five 4's = 20

12. two 4's = 8

9. eight 4's = 30

13. four 4's = 12

10. three 4's = 12

14. nine 4's = 36

11. seven 4's = 25

15. six 4's = 15

16. Write correct products in the table of M. facts for 4's, below.

A. 7 B. 9 C. 6 D. 8 E. 5

7 9 6 8 5

7 9 6 8 5

$\begin{array}{r} +7 \\ 28 \end{array}$ $\begin{array}{r} +9 \\ 36 \end{array}$ $\begin{array}{r} +6 \\ 24 \end{array}$ $\begin{array}{r} +8 \\ 32 \end{array}$ $\begin{array}{r} +5 \\ 20 \end{array}$

17. Check the work in Ex. A to E above. Write each of Ex. A to E as a M. fact.

A. $4 \times \text{-----} = \text{-----}$ C. $\text{-----} \times \text{-----} = 24$

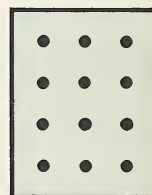
B. $\text{-----} \times 9 = \text{-----}$ D. $\text{-----} \times \text{-----} = 32$

E. $\text{-----} \times 5 = 20$

18. The dot picture shows two M. facts.

Rows: $4 \times 3 = \text{-----}$

Columns: $3 \times \text{-----} = \text{-----}$



Every M. fact goes with another M. fact to make a pair, except when equal numbers are multiplied.

19. Finish the table of M. facts for 4.

Multiplication Facts for 4's

4	4	4	4	4	4	4	4	4
$\times 1$	$\times 2$	$\times 3$	$\times 4$	$\times 5$	$\times 6$	$\times 7$	$\times 8$	$\times 9$

Multiplication Facts for 4

1	2	3	4	5	6	7	8	9
$\times 4$	$\times 4$	$\times 4$	$\times 4$	$\times 4$	$\times 4$	$\times 4$	$\times 4$	$\times 4$

Multiplying Two-Place Numbers



1. Each bag holds 10 pounds of sugar. The 4 bags hold how many pounds in all?

a. Count by 10's: 10, -----, -----, -----.

b. Add: $10 + 10 + 10 + 10 =$ -----

c. Multiply, instead of adding the equal numbers (tens):

$4 \times 1 \text{ ten} =$ ----- tens, or -----

$4 \times 10 =$ -----

You multiply tens like ones.

Write the products in row 2.

a	b	c	d	e
2. 10	10	40	20	30
$\times 5$	$\times 9$	$\times 2$	$\times 4$	$\times 5$

3. $2 \times 34 = ?$ Box A.

Multiply ones, then tens.

Ones: $2 \times 4 =$ -----

Write "8" in one's place in the product.

Tens: $2 \times 3 =$ -----

Write ----- in ten's place.

4. Study the work in box B. Then write the answer another way.

Multiply in rows 5 and 6.

a	b	c	d	e
5. 42	13	22	11	23 ¢
$\times 2$	$\times 3$	$\times 4$	$\times 8$	$\times 3$
6. 41	94	31	82	43 ¢
$\times 8$	$\times 2$	$\times 7$	$\times 3$	$\times 2$

A

Tens	Ones
3	4
$\times 2$	
6	8

B

62¢
$\times 2$
124¢

or \$-----

Add or Multiply

To find a total, you add or multiply. Multiply when the groups are equal.

Circle A. or M. to tell whether you should add or multiply in Ex. 1 to 4. Do not work the problems now.

1. The school bus goes about 31 miles each day. In 5 da. it goes ---- mi. A. M.

2. On each of three days last week, the bus carried 42 children. For all three days that was ----- children. A. M.

3. On the same three days this week, the bus carried 43, 38, and 39 children. That was a total of ----- children.

A. M.

4. One week Carol rode 107 mi.; the next week she rode 124 mi. That was ----- mi. in the two weeks. A. M.

Work the problems. Then write your answers on the lines in the problems.

Multiplying Three-Place Numbers



1. Each box holds 100 tacks. How many tacks will all 3 boxes hold?

a. Count by 100's: 100, -----, -----

b. Add: $100 + 100 + 100 =$ -----

c. Multiply instead of adding the equal numbers (hundreds):

$$3 \times 1 \text{ hundred} = 3 \text{ hundreds,}$$

or -----

Write the product in box A.

A

$$\begin{array}{r} 100 \\ \times 3 \\ \hline \end{array}$$

You multiply hundreds like ones.

Finish Ex. 2 to 8.

2. 5×1 hundred = 5 hundreds, or -----

3. 9×1 hundred = --- hundreds, or -----

4. 3×2 hundreds = --- hundreds, or -----

5. $\begin{array}{r} 100 \\ \times 7 \\ \hline \end{array}$ 6. $\begin{array}{r} 300 \\ \times 3 \\ \hline \end{array}$ 7. $\begin{array}{r} 200 \\ \times 2 \\ \hline \end{array}$ 8. $\begin{array}{r} 200 \\ \times 4 \\ \hline \end{array}$

9. $3 \times 213 = ?$ Box B.

Multiply ones, then tens, then hundreds.

The product is -----

B

$$\begin{array}{r} 213 \\ \times 3 \\ \hline 639 \end{array}$$

10. Multiply in box C. To check your work, multiply again. Is the product \$8.02?

C

$$\begin{array}{r} \$4.01 \\ \times 2 \\ \hline \end{array}$$

Multiply in row 11. Check by multiplying again.

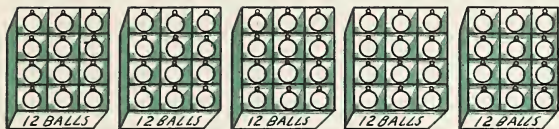
11. 1 1 1	2 0 4	2 3 1	2 1 2	4 0 3	1 3 3	1 2 2	\$ 1.4 2	\$ 4.2 3
$\times 7$	$\times 2$	$\times 3$	$\times 4$	$\times 2$	$\times 3$	$\times 4$	$\times 2$	$\times 2$

Practice in Multiplying

Write the products. To check, multiply again.

	a	b	c	d	e	f	g	h	i
1.	$\begin{array}{r} 30 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 40 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 43 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 22 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 32 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 34 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 31 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} \$0.21 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} \$0.40 \\ \times 7 \\ \hline \end{array}$
2.	$\begin{array}{r} 132 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 220 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 101 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 41 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 102 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 110 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 211 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} \$3.13 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} \$2.34 \\ \times 2 \\ \hline \end{array}$

Carrying Tens in Multiplication



1. How many Christmas-tree balls would you get if you bought all 5 boxes above?

a. To find out, can you add 12's?

b. Can you multiply? -----

The box shows the work. Multiply ones,

then -----

Ones: *Think*, "10." Write

"0" in ----- place in

the product. Carry 1 -----

Tens	Ones
1	2
$\times 5$	
6	0

Tens: *Think*, "5" (5×1), "6" (5 tens

plus 1 ten carried). Write ----- in ten's

place in the product.

In multiplying, you carry when the product of the ones is 10 or more.

Circle examples in which you carry tens.

a	b	c	d	e
2. 45	33	58	104	$\$2.03$
$\times 2$	$\times 2$	$\times 3$	$\times 8$	$\times 3$

Put X on wrong product figures.

3. 28	22	19	104	$\$3.18$
$\times 3$	$\times 4$	$\times 3$	$\times 5$	$\times 3$
84	98	37	520	$\$9.34$

Multiply in rows 4 to 8.

4. 24	12	86	425	$\$0.23$
$\times 6$	$\times 8$	$\times 4$	$\times 2$	$\times 9$

5. 14	34	42	103	$\$3.07$
$\times 9$	$\times 7$	$\times 6$	$\times 5$	$\times 2$

6. 67	78	14	102	$\$2.08$
$\times 4$	$\times 2$	$\times 7$	$\times 9$	$\times 4$

7. 79	23	87	312	$\$0.89$
$\times 3$	$\times 6$	$\times 2$	$\times 2$	$\times 4$

8. 24	56	43	115	$\$1.04$
$\times 7$	$\times 3$	$\times 5$	$\times 4$	$\times 9$

To Help You with Carrying

Write just the answers.

a	b	c	d
1. $9 \times 2 + 3 =$ -----	$8 \times 1 + 3 =$ -----	$4 \times 2 + 1 =$ -----	$3 \times 8 + 2 =$ -----
2. $3 \times 2 + 2 =$ -----	$4 \times 5 + 1 =$ -----	$7 \times 4 + 3 =$ -----	$9 \times 3 + 3 =$ -----
3. $2 \times 8 + 2 =$ -----	$4 \times 6 + 3 =$ -----	$3 \times 9 + 2 =$ -----	$6 \times 2 + 2 =$ -----
4. $5 \times 3 + 1 =$ -----	$7 \times 2 + 2 =$ -----	$6 \times 4 + 2 =$ -----	$8 \times 4 + 3 =$ -----

Carrying both Tens and Hundreds

1. $3 \times 281 = ?$ Box A.

Ones: $3 \times 1 = \dots\dots$

Tens: The product of

A
281
$\times 3$
843

3×8 is 24. 24 tens is the same as 2 hundreds and $\dots\dots$ tens. Write "4" in $\dots\dots\dots$ place in the product.

Carry $\dots\dots$ (hundreds).

Hundreds: $3 \times 2 = \dots\dots$. Add the 2 hundreds carried. Write "8" in hundred's place.

When the product in the ten's column means 10 tens or more, you carry hundreds.

2. Box B. Must you carry tens? $\dots\dots\dots$ hundreds?

$\dots\dots\dots$. Finish box B.

To check, multiply again.

B
237
$\times 4$
8

Sometimes you carry both tens and hundreds.

Multiply in rows 3 and 4.

a	b	c	d
3. 102	96	131	\$1.24
$\times 9$	$\times 3$	$\times 6$	$\times 7$
4. 257	79	132	\$1.73
$\times 2$	$\times 2$	$\times 5$	$\times 3$

Write the products. Watch carrying!

a	b	c	d	e	f	g	h
5. 275	247	467	104	189	396	\$1.33	\$1.24
$\times 3$	$\times 4$	$\times 2$	$\times 9$	$\times 4$	$\times 2$	$\times 7$	$\times 5$

Finding the Easier Way to Multiply

1. Do Ex. A and B have the same product?

$\dots\dots\dots$

Does Ex. A or Ex. B show the easier way to find the product?

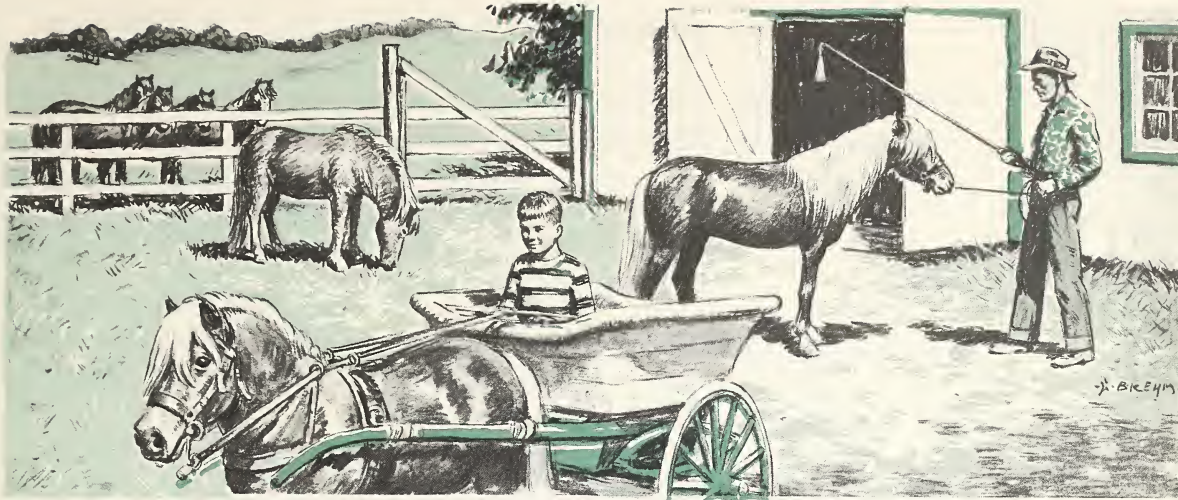
$\dots\dots\dots$

A.	2	B.	40
$\times 40$		$\times 2$	
80		80	

We may turn numbers around and multiply by the smaller number.

Copy Ex. 2 to 4 in the boxes. Multiply.

2. 108×4 3. 65×3 4. 243×4



The Pony Farm

Work each of these problems on another sheet of paper. Write each answer on the line after the problem.

1. Joe Ames's father raises Shetland ponies. At one time he had 7 colts and three times as many full-grown ponies. How many full-grown ponies were there?

2. In the summer Joe spends 4 hr. each day in helping to train the colts. How many hours does he spend in 6 days?

3. Mr. Ames sold 3 ponies for \$125 each. How much did he get for them?

4. A ride in the pony cart costs 15¢. Sally had 3 rides. How much did she have to pay?

5. The "hand" is a measure equal to 4 inches. It is used to measure how tall a horse is. The largest pony on Mr. Ames's farm was 11 hands high. How many inches high was he?

The Signs Tell You What to Do

a	b	c	d	e	f	g	h
1. 109	800	475	49	310	386	\$4.53	\$0.43
$\times 2$	-79	-126	$\times 3$	-272	$\times 2$	-1.73	$\times 8$
2. 7	52	8¢	43	\$0.57	349	53¢	\$2.46
5	48	9¢	92	0.08	176	7¢	5.09
0	6	8¢	60	0.06	$+435$	9¢	$+1.72$
9	$+58$	7¢	$+19$	$+0.09$		$+30¢$	
$+7$		$+9¢$					

A Multiplication Test

How well do you remember the things you have learned about multiplying? This test will help you to find out.

	a	b	c	d	e	f	g	h
1.	$\begin{array}{r} 31 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 112 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 30 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 104 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 124 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 167 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} \$0.23 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} \$0.75 \\ \times 3 \\ \hline \end{array}$
2.	$\begin{array}{r} 480 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 120 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 31 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 132 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 103 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} \$1.37 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} \$1.78 \\ \times 4 \\ \hline \end{array}$
3.	$\begin{array}{r} 103 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 23 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 259 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 64 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 412 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 279 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} \$0.41 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} \$2.42 \\ \times 4 \\ \hline \end{array}$

When We Divide—One Kind of Division (D.)



1. Picture A. The 12 pears will make how many groups of 3 pears?

a. Draw rings around groups of 3 pears.

In 12 there are 3's.

b. We can subtract to find the answer:

$$12 - 3 = 9; \quad 9 - 3 = 6; \quad 6 - 3 = 3; \\ 3 - 3 = 0.$$

3 can be subtracted times.

c. Or we can divide. We can write the D. fact in these two ways:

$$12 \div 3 = 4 \quad \text{and} \quad 3 \overline{)12}$$

3 is the divisor; 4 is the quotient. Read both ways: "3's in 12 = 4," or "12 divided by 3 is 4."

2. How many 4's in 8?

In picture B, draw rings around groups of 4. Then finish these D. examples:

$$8 \div 4 = \text{---}$$

$$4 \overline{)8}$$



3. How many 3's in 9? Use picture C.

$$\text{Finish: } 9 \div \text{---} = \text{---}$$

$$3 \overline{)9}$$

4. How many 2's are there in 10? Make a dot picture in box D. Then finish these two division examples:

$$10 \div 2 = \text{---}$$

$$2 \overline{)10}$$

D

To find how many equal groups, you divide.

Division Facts for 4



1. Brother Don put his 32 blocks in piles of 4. How many piles were there?
To find out, count the piles of blocks.

$$32 \div 4 = \dots\dots$$

Use the piles of blocks to find the answers for Ex. 2 to 7.

2. $12 \div 4 = \dots\dots$ 5. $16 \div 4 = \dots\dots$
3. $20 \div 4 = \dots\dots$ 6. $24 \div 4 = \dots\dots$
4. $28 \div 4 = \dots\dots$ 7. $8 \div 4 = \dots\dots$



8. Box A shows 36 dots in columns of
4. There are $\dots\dots$ columns.
 $36 \div 4 = \dots\dots$

9. Look at box A again. This time look at the rows of dots.

There are $\dots\dots$ rows with 9 dots in each.

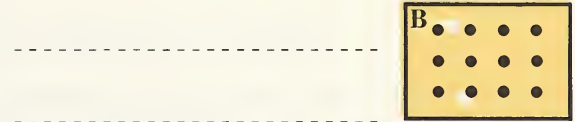
$$36 \div 9 = \dots\dots$$

10. Box A shows a pair of D. facts:

$$36 \div 4 = \dots\dots \text{ and } 36 \div 9 = \dots\dots$$

Every D. fact, except one like $16 \div 4 = 4$, goes with another D. fact to make a pair. If you know one fact, you know the other.

11. The pair of D. facts for box B is



12. Write the D. fact that goes with

- a. $24 \div 4 = 6 \dots\dots$
b. $20 \div 4 = 5 \dots\dots$
c. $32 \div 4 = 8 \dots\dots$
d. $28 \div 4 = 7 \dots\dots$

13. Write quotients for the tables of D. facts below.

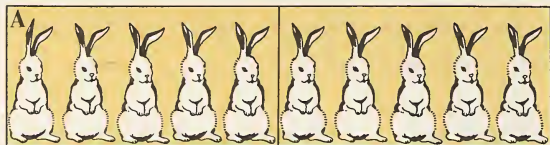
Division Facts, Divisor 4

$$4 \overline{)4} \quad 4 \overline{)8} \quad 4 \overline{)12} \quad 4 \overline{)16} \quad 4 \overline{)20} \quad 4 \overline{)24} \quad 4 \overline{)28} \quad 4 \overline{)32} \quad 4 \overline{)36}$$

Division Facts, Quotient 4

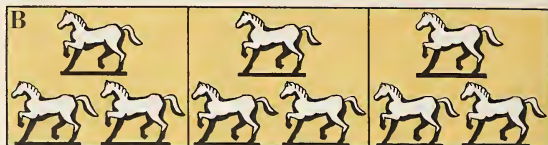
$$1 \overline{)4} \quad 2 \overline{)8} \quad 3 \overline{)12} \quad 4 \overline{)16} \quad 5 \overline{)20} \quad 6 \overline{)24} \quad 7 \overline{)28} \quad 8 \overline{)32} \quad 9 \overline{)36}$$

Fraction Names for Equal Parts of Groups



1. Picture A. The group of 10 rabbits is divided into two parts, with _____ rabbits in each part. Are the parts of the big group equal? _____

The fraction that names each part and tells its size is _____.



2. Picture B. The group of 9 toy horses is divided into _____ equal parts. The fraction name for each part is _____.

How many horses are there in each of the equal parts? _____

$$\frac{1}{3} \text{ of } 9 \text{ horses} = \text{_____ horses.}$$

When We Divide—Another Kind of Division

1. If Tom, Joe, and Ed share 6 cupcakes equally, how many will each have?

The number question is, "Each $\frac{1}{3}$ of 6 = ?"



Box A shows what the boys did first.

Box B shows what they did next. Each

boy got _____ cakes for his share. So $\frac{1}{3}$ of

6 = _____. We can write the work in three

ways: $\frac{1}{3}$ of 6 = 2 or $6 \div 3 = 2$ or $3 \overline{)6}$.

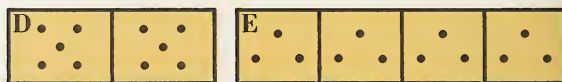
2. Box C. The 12 dots are in _____ equal parts. There are

_____ dots in each of the parts.

$$\frac{1}{3} \text{ of } 12 = \text{_____}$$

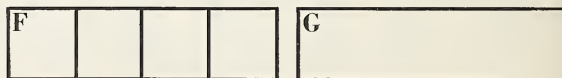


3. Box D. $\frac{1}{2}$ of 10 = _____.



4. Box E. _____ of 12 = _____.

5. $\frac{1}{4}$ of 8 = ? In box F put 8 dots in 4 equal groups. $\frac{1}{4}$ of 8 (or $8 \div 4$) = _____.



6. $\frac{1}{3}$ of 9 = _____. (Use box G.) $3 \overline{)9}$

Write the quotients for Ex. 7 to 12:

7. $\frac{1}{2}$ of 6 = _____ 10. $\frac{1}{2}$ of 14 = _____

8. $\frac{1}{3}$ of 15 = _____ 11. $\frac{1}{4}$ of 32 = _____

9. $\frac{1}{4}$ of 20 = _____ 12. $\frac{1}{2}$ of 8 = _____

To find how many in each equal part or equal share of a group, you divide. The quotient tells how many there are in each equal part.

The Whole Story in M. and D.

1. The dot picture shows 2 M. facts and 2 D. facts. Use rows and columns. Finish the facts.



M. $4 \times 2 =$ $2 \times 4 =$

D. $8 \div 2 =$ $8 \div$ $=$

These four facts make the whole story in M. and D. about 2, _____, and 8.

Every M. or D. fact, except one like $3 \times 3 = 9$ or $4 \div 2 = 2$, goes with three other facts to make a whole story in M. and D.

Write the three other facts in each whole story.

2. $3 \times 7 = 21$

4. $28 \div 4 = 7$

3. $6 \times 4 = 24$

5. $32 \div 8 = 4$

Do You Know the Division Facts?

Write just the quotients.

a b c d e f g h i

1. $4 \overline{)20}$ $9 \overline{)27}$ $3 \overline{)24}$ $8 \overline{)32}$ $2 \overline{)18}$ $4 \overline{)12}$ $7 \overline{)21}$ $2 \overline{)10}$ $3 \overline{)18}$

2. $3 \overline{)21}$ $9 \overline{)36}$ $4 \overline{)28}$ $2 \overline{)16}$ $6 \overline{)24}$ $3 \overline{)27}$ $8 \overline{)24}$ $4 \overline{)36}$ $2 \overline{)12}$

3. $4 \overline{)16}$ $6 \overline{)18}$ $3 \overline{)15}$ $9 \overline{)18}$ $4 \overline{)32}$ $2 \overline{)14}$ $7 \overline{)14}$ $3 \overline{)12}$ $8 \overline{)16}$

4. $5 \overline{)15}$ $2 \overline{)8}$ $7 \overline{)28}$ $6 \overline{)12}$ $4 \overline{)24}$ $3 \overline{)9}$ $5 \overline{)20}$ $2 \overline{)6}$ $4 \overline{)8}$

TO BE GOOD AT DIVIDING, YOU MUST

- | | |
|---|--|
| <p>a. know all the D. facts.</p> <p>b. start to divide at the left.</p> <p>c. write quotient figures in their correct places.</p> | <p>d. know how to check your work (by multiplying the quotient by the divisor).</p> <p>e. be careful in all your work.</p> |
|---|--|

TO HELP YOU WHEN YOU DIVIDE

- a. When you divide a number by an equal number, the quotient is always 1.
- b. When you divide a number by 1, the quotient is always that number.
- c. If some D. facts are hard for you, you can use whole stories to help you find quotients.

Division with a Remainder

1. Seven tops will make how many groups of 3 tops?



- a. Use the picture at the left. Draw rings around groups of 3.

In 7 there are

3's and left over.

- b. Subtract. $7 - 3 = \dots$, $4 - 3 = \dots$.

$7 =$ two 3's and left over.

- c. Use a D. fact. $3\overline{)7}$ is not in the table of D. facts with divisor 3, but $3\overline{)6}$ is. Then the table number that helps you is The box shows how to write the work. "R1" means that there is a remainder of

$$\begin{array}{r} 2, \text{ R1} \\ 3\overline{)7} \\ \underline{6} \quad (2 \times 3) \\ 1 \end{array}$$

In the lists at the top of the next column, the heavy black figures are the table numbers for dividing by 2, by 3, and by 4. Under each table number are the numbers that go with it.

Dividing by 2	2	4	6	8	10	12	14	16	18
	3	5	7	9	11	13	15	17	19

Dividing by 3	3	6	9	12	15	18	21	24	27
	4	7	10	13	16	19	22	25	28
	5	8	11	14	17	20	23	26	29

Dividing by 4	4	8	12	16	20	24	28	32	36
	5	9	13	17	21	25	29	33	37
	6	10	14	18	22	26	30	34	38
	7	11	15	19	23	27	31	35	39

2. Use the lists above to help you and write the table number you would use for each of these examples.

- a. $26 \div 4$
- b. $15 \div 2$
- c. $28 \div 3$
- d. $9 \div 2$
- e. $19 \div 4$
- f. $16 \div 3$

Write your work for rows 3 and 4.

- | | | | |
|----------------------|-------------------|-------------------|-------------------|
| a | b | c | d |
| 3. $3\overline{)11}$ | $2\overline{)17}$ | $4\overline{)31}$ | $4\overline{)25}$ |
| 4. $4\overline{)13}$ | $3\overline{)29}$ | $2\overline{)13}$ | $3\overline{)19}$ |

More Table Numbers

1. For dividing by 5, the first four table numbers are 5, 10, 15, and 20.

a. For $22 \div 5$ the table number is

b. For $13 \div 5$ the table number is

2. For dividing by 6, the first four table numbers are 6, 12, 18, and 24.

a. For $10 \div 6$ the table number is

b. For $19 \div 6$ the table number is

3. For dividing by 7, the first four table numbers are 7, 14, 21, 28. For $16 \div 7$ the table number is

4. For dividing by 8, the first four table numbers are 8, 16, 24, 32. For $30 \div 8$ the table number is

5. For dividing by 9, the first four table numbers are 9, 18, 27, 36. For $26 \div 9$ the table number is

Divide in rows 6 to 10. Some examples have remainders and some do not.

	a	b	c	d
6.	$4 \overline{)19}$	$9 \overline{)20}$	$2 \overline{)11}$	$8 \overline{)18}$
7.	$2 \overline{)17}$	$6 \overline{)15}$	$5 \overline{)22}$	$3 \overline{)29}$
8.	$8 \overline{)24}$	$3 \overline{)19}$	$6 \overline{)25}$	$7 \overline{)30}$
9.	$9 \overline{)37}$	$4 \overline{)28}$	$5 \overline{)14}$	$8 \overline{)31}$
10.	$3 \overline{)17}$	$7 \overline{)21}$	$2 \overline{)13}$	$5 \overline{)20}$

The Signs Tell You What to Do

	a	b	c	d	e	f	g	h
1.	$\begin{array}{r} 114 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 408 \\ -65 \\ \hline \end{array}$	$\begin{array}{r} 120 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 82 \\ +93 \\ \hline \end{array}$	$\begin{array}{r} 487 \\ -289 \\ \hline \end{array}$	$\begin{array}{r} 315 \\ -65 \\ \hline \end{array}$	$\begin{array}{r} \$1.03 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} \$4.08 \\ +0.99 \\ \hline \end{array}$
2.	$\begin{array}{r} 205 \\ +570 \\ \hline \end{array}$	$\begin{array}{r} 187 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 900 \\ -674 \\ \hline \end{array}$	$\begin{array}{r} 287 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 498 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} \$0.65 \\ 0.37 \\ 0.09 \\ +0.90 \\ \hline \end{array}$	$\begin{array}{r} \$0.39 \\ 0.07 \\ 0.06 \\ +0.08 \\ \hline \end{array}$	$\begin{array}{r} \$0.82 \\ -0.09 \\ \hline \end{array}$

Two-Place Quotients in Division

1. Fran read $\frac{1}{4}$ of her 80-page book. She read how many pages? $\frac{1}{4}$ of 80 = ?

80 = 8 tens. $8 \text{ tens} \div 4 = 2 \text{ tens}$, or

You divide tens like ones.

2. Write the quotients.

a. $\frac{1}{3}$ of 90 = c. $120 \div 6 = \dots\dots\dots$

b. $\frac{1}{2}$ of 40 = d. $150 \div 5 = \dots\dots\dots$

3. $\frac{1}{4}$ of 84 = ?

a. $84 = 80 + 4$. We can divide each part by 4. $80 \div 4 = 20$; $4 \div 4 = 1$. $20 + 1 = 21$. So $\frac{1}{4}$ of 84 = 21.

b. A better way is shown in box A.

Divide tens: $8 \div 4$

= 2. Write "2" in ten's place in the quotient.

Multiply: 2 tens $\times 4$.

Write under

84 and subtract.

A

Tens	Ones
2	1
4	8
8	0
4	(20 \times 4)
4	(1 \times 4)
0	0

Divide ones: $4 \div 4 = \dots\dots$. Write in one's place in the quotient. Multiply and subtract.

Finish Ex. 4. Then work Ex. 5 and 6.

4.
$$\begin{array}{r} 5 \\ 3 \overline{)156} \\ \underline{150} \end{array}$$

5.
$$2 \overline{)68}$$

6.
$$6 \overline{)246}$$

7. Jack divided 92 stamps into 4 equal piles. How many stamps did he put in each pile?

$\frac{1}{4}$ of 92 = ?

Box B. To divide

the 9 tens by 4,

you must use a table

number. Use

Study the division in

box B.

B

Tens	Ones
2	3
4	9
8	0
1	2
1	2
0	0

Check

23	(quotient)
$\times 4$	(divisor)
92	

8. See how the work is checked in box B. The quotient,, is multiplied by the divisor,, Is the product, 92, the same as the number we divided?

To check division that has no remainder, multiply the quotient by the divisor. The product should be the number you divided.

Divide in row 9. Check your work on another sheet of paper.

a

b

c

d

9.
$$3 \overline{)135}$$

$$2 \overline{)138}$$

$$6 \overline{)252}$$

$$9 \overline{)288}$$

Practice in Division

1. $2\overline{)98}$

2. $6\overline{)258}$

3. $9\overline{)369}$

4. $4\overline{)336}$

5. $9\overline{)279}$

6. $8\overline{)336}$
-
7. $5\overline{)65}$

8. $8\overline{)112}$

9. $2\overline{)106}$

10. $7\overline{)98}$

11. $6\overline{)144}$

12. $5\overline{)215}$

Three-Place Quotients

1. If $\frac{1}{4}$ of the 800 bottles in a milk truck are pints, how many pint bottles are there?

8 hundreds $\div 4 =$ hundreds, or

.....

You divide hundreds like ones.

Write the quotients.

2. $\frac{1}{3}$ of 600 = 3. $400 \div 2 =$

4. $3\overline{)900}$ 5. $2\overline{)800}$ 6. $2\overline{)600}$

7. $\frac{1}{3}$ of 693 = ?

Divide hundreds.

$6 \div 3 = 2$. Write "2" in hundred's place. Multiply (2 hundreds $\times 3$) and write "600" under 693. Subtract.

Now divide tens, then ones. Finish the work in the box.

$\frac{1}{3}$ of 693 =

	Hundreds	Tens	Ones	
	2	3	1	
$3\overline{)6}$	9	3		
	6	0	0	(200 \times 3)
		9	3	
				(30 \times 3)
			3	
				(1 \times 3)

Finish Ex. 8 and 9. Then work Ex. 10 to 13.

8. $2\overline{)864}$
800

9. $4\overline{)928}$
800

10. $3\overline{)936}$

11. $6\overline{)786}$

12. $7\overline{)917}$

13. $5\overline{)705}$

A Division Test

Divide. To check, do each example again.

a

b

c

d

e

f

g

h

1. $4 \overline{)88}$

$5 \overline{)70}$

$2 \overline{)68}$

$3 \overline{)69}$

$6 \overline{)78}$

$2 \overline{)98}$

$3 \overline{)192}$

$5 \overline{)170}$

2. $8 \overline{)968}$

$5 \overline{)655}$

$7 \overline{)238}$

$6 \overline{)252}$

$4 \overline{)392}$

$3 \overline{)258}$

$7 \overline{)294}$

$2 \overline{)364}$

Dividing Money Numbers

1. $\$2.07 \div 5 = ?$ (Box A)

Cents take ----- places
in the quotient.

The remainder is -----.

This 2 means 2 -----.

2. Box B shows how to
check the division in box A.

To check, we multiply the
quotient, \$-----, by the

divisor, -----, and add the remainder
to this product. Is the answer the same
as the number we divided? -----

A

$$\begin{array}{r} \$0.41, R2 \\ 5 \overline{) \$2.07} \\ \underline{2\ 00} \\ 7 \\ \underline{5} \\ 2 \end{array}$$

B

$$\begin{array}{r} \text{Check} \\ \$0.41 \\ \times 5 \\ \hline \$2.05 \\ + 0.02 \\ \hline \$2.07 \end{array}$$

Finish Ex. 3. Check your work.

3. $4 \overline{) \$3.78}$

$$\begin{array}{r} \text{Check} \\ \$0.94 \\ \times \\ \hline \end{array}$$

Divide in row 4.

4. $3 \overline{) \$4.88}$

$6 \overline{) \$2.59}$

$5 \overline{) \$6.09}$

Shortening Work in Division

You can shorten work in D. examples by writing fewer 0's. Just bring down figures as you need them.

1. Box A. When you multiply 3 tens \times 6, you do not need to write "180." Just write "18" (tens) under the 20 (tens). Then subtract.

$$20 - 18 = \text{----- (tens)}$$

Study the rest of the work in box A. When the last remainder is 0, you do not need to write it.

2. Box B. Cross out the 0's that are not needed.

A

$$\begin{array}{r} 34 \\ 6 \overline{)204} \\ \underline{180} \\ 24 \\ \underline{24} \\ 0 \end{array}$$

B

$$\begin{array}{r} 84 \\ 4 \overline{)336} \\ \underline{320} \\ 16 \\ \underline{16} \\ 0 \end{array}$$

Divide the short way in Ex. 3 to 11.

3. $7 \overline{)231}$ 4. $8 \overline{)328}$ 5. $5 \overline{)155}$

6. $4 \overline{)84}$ 7. $3 \overline{)145}$ 8. $6 \overline{)247}$

9. $9 \overline{)108}$ 10. $2 \overline{)187}$ 11. $3 \overline{)283}$

Making Money Problems



Write an A. question where you see "A.," a S. question where you see "S.," and so on.

1. At the market, Mrs. Fry spent \$4.07. Mrs. Bell spent \$2.19 more than Mrs. Fry.

A.

.....

.....

2. Mrs. Fry gave the clerk \$5.00 to pay her bill of \$4.07.

S.

.....

3. Among the things Mrs. Bell bought were 4 cans of tomatoes at 19¢ a can.

M.

.....

4. Susan Bell spent 36¢ for 4 candy bars of the same kind.

D.

.....

Can You Tell?

a	b	c	d	e
203	342	248	$3\overline{)362}$	$8\overline{)184}$
$\times 4$	$\times 3$	$\times 4$		

Copy the letter of the example in which

1. you carry only hundreds.
2. you carry only tens.
3. you carry tens and hundreds.
4. you have a two-place quotient.
5. you have a three-place quotient.
6. In dividing by 6, the table number
 - a. for 20 is
 - b. for 15 is
7. Write the D. fact that goes with
 $36 \div 9 = 4$
8. The M. facts in the whole story about
 3, 9, and 27 are:

Circle "Yes" or "No" for your answer.

9. XXXIV means 34. Yes No
10. XLVI means 66. Yes No
11. A leap year has 366 days. Yes No
12. All halves are equal. Yes No
13. A frog can be 1 yd. long. Yes No
14. Any number $\times 0 =$ that number.
Yes No
15. Any number $\div 1 = 0$. Yes No
16. Fractions can be used to name equal
parts of groups. Yes No
17. $17 \div 5$ has a remainder. Yes No
18. 36 in. = 1 yd. Yes No
19. A boy can walk a mile in 5 min.
Yes No
20. 9:00 A.M. comes in the morning.
Yes No

Chapter Test 2

	a	b	c
1.	198 $\times 3$	610 -570	$\$1.04$ $\times 8$
2.	397 $+288$	459 $\times 2$	$\$1.73$ -0.94
3.	43 $\times 6$	103 $\times 7$	$\$2.25$ $\times 4$

	a	b	c	d
4.	$4\overline{)329}$	$3\overline{)728}$	$6\overline{)846}$	$8\overline{)\$3.46}$

To be good at solving problems, you should know the things listed in the box below.



You add or multiply to find how many or how much in all.

If the groups are not equal, you add.

If the groups are equal, you can multiply.

You subtract or divide to break up groups.

You subtract to find

1. how many left.
2. how many gone.
3. the difference.
4. the other part.

You divide to find

1. how many equal groups there are.
2. how many there are in each equal part or equal share of a group.



One day the children in Miss Allen's room gave a party for their parents. The next day the children made problems about the party. Ex. 1 to 7 are some of the problems they made.

After each problem circle A., S., M., or D. to tell what to do to solve the problem. Do not solve now.

1. Only 6 fathers came to our party, but 3 times as many mothers came. How many mothers came to the party?

A. S. M. D.

2. Don's mother brought some flowers for our room. There were 36 flowers in all, and $\frac{1}{4}$ of them were roses. How many of the flowers were roses? A. S. M. D.

3. Sally put 18 cookies on each of 3 plates. How many cookies did she use in all? A. S. M. D.

4. We had \$6.00 to pay for the party. The ice cream cost \$2.15. How much did we have for other things? A. S. M. D.

5. Cookies cost \$1.05, and funny hats cost \$1.90. How much did these things cost in all? A. S. M. D.

6. In one game 8 people played on each team. In all, 32 people played. How many teams could we make?

A. S. M. D.

7. When the party was over, 25 of the 31 children went home. The others stayed to help clean up. How many children stayed? A. S. M. D.

Work the problems on another sheet of paper and write your answers here:

1. _____ 2. _____ 3. _____ 4. _____

5. _____ 6. _____ 7. _____

Estimating Sums and Remainders



Sometimes in solving problems we can think the work quickly and find answers that are just about right. Answers that are almost right may be all we need to know. When we find "almost-right" answers, we estimate.



1. The boys are counting paper cups for the school fair. Tom has counted out 38, and Jack, 53. Do they have 80 cups?

38 is almost 4 tens; 53 is about ---- tens.

4 tens + 5 tens = ---- tens, or -----

They have more than 80 cups.

In estimating sums and remainders, we think of any two-place number as the nearest number that is even tens. Then we add or subtract these even tens.

2. You would think of 89 as ---- tens.

3. You would think of 31 as ---- tens.

4. You would think of 22 as ---- tens.

5. You would think of 67 as ---- tens.

Now estimate the sum for each of Ex. 6 to 15 and write it after the example.

6. $61 + 19$ ----- 11. $18 + 38$ -----

7. $23 + 48$ ----- 12. $21 + 51$ -----

8. $57 + 22$ ----- 13. $52 + 28$ -----

9. $49 + 37$ ----- 14. $39 + 27$ -----

10. $42 + 21$ ----- 15. $28 + 41$ -----

16. The girls had 84 plates. They have put ice cream on 39 plates. Are there enough plates left for 40 more people?

84 is a little more than ----- tens;

and 39 is almost ----- tens.

8 tens - 4 tens = ---- tens, or -----

Will they have enough plates? -----

17. $52 - 28 = ?$ Think,

5 tens - ---- tens = ---- tens, or -----

Write estimated remainders for these:

18. $61 - 38$ ----- 22. $78 - 21$ -----

19. $47 - 29$ ----- 23. $81 - 32$ -----

20. $88 - 52$ ----- 24. $93 - 72$ -----

21. $69 - 48$ ----- 25. $52 - 37$ -----

Now find true sums or remainders for Ex. 14, 15, 24, and 25.

14. $\begin{array}{r} 39 \\ + 27 \\ \hline \end{array}$ 15. $\begin{array}{r} 28 \\ + 41 \\ \hline \end{array}$ 24. $\begin{array}{r} 93 \\ - 72 \\ \hline \end{array}$ 25. $\begin{array}{r} 52 \\ - 37 \\ \hline \end{array}$

Were your estimated answers about right? -----

Four-Place Numbers

The numbers 4,856 and 7,280 are four-place numbers. We read them, “four thousand eight hundred fifty-six,” and “seven thousand two hundred eighty.”

1. In four-place numbers, the place at the left is for thousands. 4,856 has ---- thousands. 7,280 has ---- thousands.

2. 10 hundreds = 1 thousand, or 1,000.

a. 40 hundreds = ---- thousands, or 4,000.

b. 59 hundreds = ----- thousands and ----- hundreds, or -----.

3. Finish box A; then do box B. Write each figure of the number in the correct place. Then write the meaning.

A 8,265		
	Place	Meaning
8	thousand's	8,000
2	hundred's	200
	ten's	
	one's	

B 7,086		
	Place	Meaning
	thousand's	
	hundred's	
	ten's	
	one's	

We can show the meaning of four-place numbers in other ways. Study Ex. 4. Then do Ex. 5 to 7.

4. $3,428 = 3$ thousands and 4 hundreds and 2 tens and 8 ones, or 34 hundreds and 2 tens and 8 ones, or 342 tens and 8 ones.

5. $5,720 =$ ----- thousands and ----- hundreds and 2 ----- and 0 -----, or ----- hundreds and ----- tens and 0 -----, or 572 ----- and ----- ones.

6. $9,064 = 9$ ----- and ----- hundreds and ----- tens and ----- ones, or ----- hundreds and ----- tens and ----- ones, or ----- tens and ----- ones.

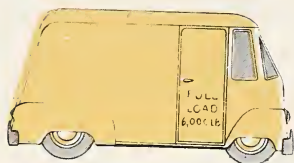
7. $2,807 =$ ----- thousands and ----- hundreds and 0 ----- and ----- ones, or 28 ----- and ----- tens and ----- ones, or 280 ----- and 7 -----.

8. Write the number that has

a. 6 thousands, 0 hundreds, 9 tens, and 8 ones. -----

b. 34 hundreds + 6 ones. -----

Addition of Four-Place Numbers



1. How many pounds will the two trucks carry when both are loaded? $3,000 + 6,000 = ?$

3 thousands + 6 thousands = thousands.

You add thousands just as you add ones.

2. The big truck has a load of 4,515 pounds, and the smaller truck has a load of 2,750 pounds. The two trucks are carrying ? pounds.

Box A. 4,515 and 2,750 are the addends (the numbers to be added). See how the sum was found.

A

Thousands	Hundreds	Tens	Ones
4,	5	1	5
+ 2,	7	5	0
7,	2	6	5

What is the sum in hundred's column?

Must we carry 1 thousand?

When the sum in the hundred's column is 10 or more, you carry.

Put X on wrong figures in these sums.

3. $\begin{array}{r} 6,300 \\ + 2,860 \\ \hline 8,160 \end{array}$	4. $\begin{array}{r} 5,973 \\ + 468 \\ \hline 6,341 \end{array}$	5. $\begin{array}{r} \$28.07 \\ 9.43 \\ + 52.98 \\ \hline \$89.49 \end{array}$
--	--	--

Add in rows 6 and 7. Check your work.

a	b	c	d
6. $\begin{array}{r} 588 \\ + 3,168 \\ \hline \end{array}$	$\begin{array}{r} 4,739 \\ + 2,845 \\ \hline \end{array}$	$\begin{array}{r} \$50.36 \\ + 9.65 \\ \hline \end{array}$	$\begin{array}{r} 3,364 \\ + 2,890 \\ \hline \end{array}$
7. $\begin{array}{r} 709 \\ 344 \\ + 265 \\ \hline \end{array}$	$\begin{array}{r} 7,329 \\ 993 \\ + 18 \\ \hline \end{array}$	$\begin{array}{r} \$37.43 \\ 6.51 \\ + 27.69 \\ \hline \end{array}$	$\begin{array}{r} 546 \\ 3,798 \\ + 947 \\ \hline \end{array}$

Copy these addends in boxes B to G. Then add.

- | | |
|-------------------------|----------------------------|
| 8. 978; 2,074 | 11. \$5.38; \$3.79; \$7.61 |
| 9. \$28.75; \$8.58 | 12. 3,052; 968; 2,713 |
| 10. 4,001; 3,772; 2,060 | 13. \$49.27; \$35.69 |

B (Ex. 8)

C (Ex. 9)

D (Ex. 10)

E (Ex. 11)

F (Ex. 12)

G (Ex. 13)

Finding **n**, the Missing Addend

A

$$\begin{array}{r} 29 \\ + 34 \\ \hline 63 \end{array}$$

B

$$\begin{array}{r} 63 \\ - 29 \\ \hline 34 \end{array}$$

C

$$\begin{array}{r} 63 \\ - 34 \\ \hline 29 \end{array}$$

Find **n** in each of Ex. 7 to 26. Do your work on another sheet of paper. Write the number for **n** after each example.

7. $57 - n = 20$ $n = \dots\dots\dots$

8. $34 = n + 18$ $n = \dots\dots\dots$

9. $n = 60 - 37$ $n = \dots\dots\dots$

10. $n + 42 = 80$ $n = \dots\dots\dots$

11. $45 = 26 + n$ $n = \dots\dots\dots$

12. $71 - 35 = n$ $n = \dots\dots\dots$

13. $n = 93 - 16$ $n = \dots\dots\dots$

14. $n + 48 = 67$ $n = \dots\dots\dots$

15. $50 = 12 + n$ $n = \dots\dots\dots$

16. $83 - n = 35$ $n = \dots\dots\dots$

17. $58 = n + 19$ $n = \dots\dots\dots$

18. $18 + n = 81$ $n = \dots\dots\dots$

19. $76 = n + 17$ $n = \dots\dots\dots$

20. $82 - n = 44$ $n = \dots\dots\dots$

21. $63 - 20 = n$ $n = \dots\dots\dots$

22. $n + 32 = 40$ $n = \dots\dots\dots$

23. $n = 54 - 37$ $n = \dots\dots\dots$

24. $78 = 45 + n$ $n = \dots\dots\dots$

25. $n = 66 + 29$ $n = \dots\dots\dots$

26. $91 = n + 34$ $n = \dots\dots\dots$

1. In box A, the addends are $\dots\dots\dots$ and $\dots\dots\dots$. The sum is $\dots\dots\dots$.

2. Are the same numbers used in boxes A, B, and C? $\dots\dots\dots$

3. In boxes B and C, you subtract one addend from the sum. The remainder is the other $\dots\dots\dots$.

If you know the sum of two addends, and one addend used to make the sum, you subtract to find the other addend.

4. In the example $48 = 25 + n$, the sum is $\dots\dots$. One addend is $\dots\dots$.

n stands for the missing addend. Look at box D.

Does $n = 23$? $\dots\dots\dots$

5. In the example $47 = 80 - n$, subtract $\dots\dots$ from 80 to find the number for **n**.

Write the work in box E.

6. $39 - n = 17$. To find **n**, subtract in box F.

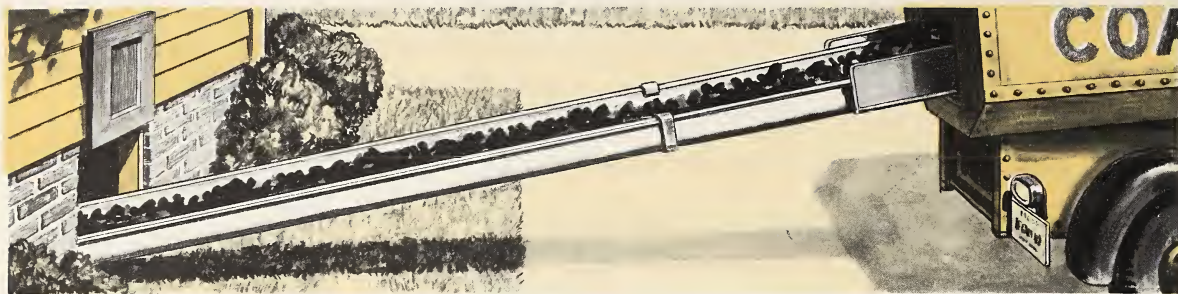
D

$$\begin{array}{r} 48 \\ - 25 \\ \hline 23 \end{array}$$

E

F

Subtraction with Four-Place Numbers



1. Mr. Allen bought 8,000 pounds of coal. After 1,000 pounds had been used, how many pounds of coal were left?

$$8,000 - 1,000 = ?$$

8 thousands - 1 thousand = ... thousands

You subtract thousands like ones.

2. When only 1,500 pounds of coal were left, how many of the 8,000 pounds had been used?

Look at the work in the box.

Thousands	Hundreds	Tens	Ones
8	0	0	0
8	0	0	0
-1	5	0	0
6	5	0	0

Subtract tens and ones as

you always do. In hundred's column, can you subtract 5 from 0?

Must you borrow a thousand?

The 1 thousand borrowed has been changed to hundreds.

When you cannot subtract hundreds, borrow a thousand and change it to 10 hundreds.

Put X on wrong remainder figures.

a	b	c
3. $\begin{array}{r} 8,579 \\ -5,456 \\ \hline 2,923 \end{array}$	$\begin{array}{r} 7,191 \\ -368 \\ \hline 7,823 \end{array}$	$\begin{array}{r} 5,090 \\ -2,957 \\ \hline 2,143 \end{array}$
4. $\begin{array}{r} 2,957 \\ -973 \\ \hline 2,084 \end{array}$	$\begin{array}{r} 5,811 \\ -3,079 \\ \hline 2,732 \end{array}$	$\begin{array}{r} \$36.25 \\ -12.09 \\ \hline \$14.16 \end{array}$

Subtract in rows 5 to 8.

5. $\begin{array}{r} 8,275 \\ -6,285 \\ \hline \end{array}$	$\begin{array}{r} 6,743 \\ -3,484 \\ \hline \end{array}$	$\begin{array}{r} \$44.04 \\ -36.73 \\ \hline \end{array}$
6. $\begin{array}{r} 7,447 \\ -5,844 \\ \hline \end{array}$	$\begin{array}{r} 9,565 \\ -3,837 \\ \hline \end{array}$	$\begin{array}{r} \$44.28 \\ -6.57 \\ \hline \end{array}$
7. $\begin{array}{r} 6,178 \\ -419 \\ \hline \end{array}$	$\begin{array}{r} 4,121 \\ -2,395 \\ \hline \end{array}$	$\begin{array}{r} \$64.44 \\ -15.77 \\ \hline \end{array}$
8. $\begin{array}{r} 1,227 \\ -780 \\ \hline \end{array}$	$\begin{array}{r} 5,670 \\ -1,904 \\ \hline \end{array}$	$\begin{array}{r} \$87.82 \\ -78.23 \\ \hline \end{array}$

Work these examples. Watch the signs.

a	b	c	d
9. $\begin{array}{r} 634 \\ -299 \\ \hline \end{array}$	$\begin{array}{r} 142 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 42\text{¢} \\ 16\text{¢} \\ 6\text{¢} \\ +35\text{¢} \\ \hline \end{array}$	$\begin{array}{r} 303 \\ 846 \\ +798 \\ \hline \end{array}$

Harder Subtraction with Four-Place Numbers



1. By one railroad it is 2,648 miles from San Francisco to New Orleans. How many miles less than 3,000 miles is that?

$$3,000 - 2,648 = ?$$

Look at the numbers. Can you subtract

ones? _____ tens? _____

hundreds? _____

Now study the box below.

$\begin{array}{r} 2\ 9\ 9\ \textcircled{10} \\ 3,000 \\ - 2,648 \\ \hline 352 \end{array}$
--

The minuend (the number to be subtracted from) is _____

The subtrahend (number to be subtracted) is _____

Think of 3,000 as 300 tens and borrow a ten, leaving 299 tens, or 2 thousands and _____ hundreds and _____ tens.

Then subtract.

Study the changed minuends in Ex. 2, 3, and 4, and make the subtractions.

$\begin{array}{r} 7\ 9\ 9\ \textcircled{10} \\ 2.\ 8,000 \\ - 879 \\ \hline \end{array}$	$\begin{array}{r} 8\ 9\ \textcircled{10}\ \textcircled{10} \\ 3.\ 9,000 \\ - 6,483 \\ \hline \end{array}$	$\begin{array}{r} 5\ 9\ 9\ \textcircled{10} \\ 4.\ 6,000 \\ - 3,726 \\ \hline \end{array}$
--	---	--

Put X on wrong remainder figures.

a	b	c
$\begin{array}{r} 5.\ 7,000 \\ - 4,351 \\ \hline 2,759 \end{array}$	$\begin{array}{r} 2,000 \\ - 125 \\ \hline 2,975 \end{array}$	$\begin{array}{r} 8,010 \\ - 5,929 \\ \hline 3,081 \end{array}$
$\begin{array}{r} 6.\ 9,110 \\ - 5,473 \\ \hline 3,647 \end{array}$	$\begin{array}{r} 6,000 \\ - 4,052 \\ \hline 1,848 \end{array}$	$\begin{array}{r} 4,199 \\ - 2,747 \\ \hline 2,452 \end{array}$

Subtract in rows 7, 8, and 9.

$\begin{array}{r} 7.\ 6,810 \\ - 4,980 \\ \hline \end{array}$	$\begin{array}{r} 8,000 \\ - 3,011 \\ \hline \end{array}$	$\begin{array}{r} 4,100 \\ - 3,867 \\ \hline \end{array}$
$\begin{array}{r} 8.\ 7,000 \\ - 6,583 \\ \hline \end{array}$	$\begin{array}{r} 8,100 \\ - 681 \\ \hline \end{array}$	$\begin{array}{r} 5,010 \\ - 2,548 \\ \hline \end{array}$
$\begin{array}{r} 9.\ 4,110 \\ - 1,302 \\ \hline \end{array}$	$\begin{array}{r} 6,000 \\ - 2,729 \\ \hline \end{array}$	$\begin{array}{r} 9,111 \\ - 3,546 \\ \hline \end{array}$

Multiplication and Division Facts with 5

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

(9)



5

10

1. Count the cherries by 5's and write the numbers on the lines.

2. Use Ex. 1 to finish these M. facts:

a. $4 \times 5 =$ _____ d. $8 \times 5 =$ _____

b. $9 \times 5 =$ _____ e. $7 \times 5 =$ _____

c. $6 \times 5 =$ _____ f. $5 \times 5 =$ _____

3. Finish these additions:

a. $8 + 8 + 8 + 8 + 8 =$ _____

b. $6 + 6 + 6 + 6 + 6 =$ _____

c. $4 + 4 + 4 + 4 + 4 =$ _____

d. $9 + 9 + 9 + 9 + 9 =$ _____

e. $7 + 7 + 7 + 7 + 7 =$ _____

f. $5 + 5 + 5 + 5 + 5 =$ _____

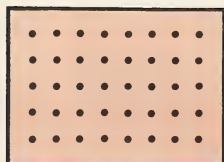
4. Write Ex. 3a to 3f as M. facts.

a. $5 \times 8 =$ _____ d. _____

b. $5 \times 6 =$ _____ e. _____

c. $5 \times 4 =$ _____ f. _____

5. Write the two M. facts shown in the box at the right.



Most M. facts go in pairs.

6. Write the M. fact that goes with

a. $2 \times 5 = 10$ _____

b. $5 \times 9 = 45$ _____

c. $3 \times 5 = 15$ _____

d. $5 \times 7 = 35$ _____

7. Use the cherry picture above to finish these D. facts with 5 as divisor:

a. $35 \div 5 =$ _____ d. $30 \div 5 =$ _____

b. $20 \div 5 =$ _____ e. $45 \div 5 =$ _____

c. $40 \div 5 =$ _____ f. $25 \div 5 =$ _____

8. Use your work in Ex. 3 to finish these D. facts with 5 as quotient:

a. $40 \div 8 =$ _____ d. $45 \div \text{ } = 5$

b. $30 \div \text{ } = 5$ e. $35 \div 7 =$ _____

c. $20 \div 4 =$ _____ f. $25 \div \text{ } = 5$

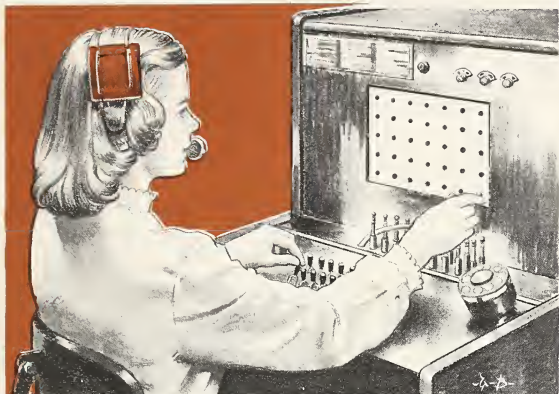
Most D. facts go in pairs.

9. Write the D. fact that goes with

a. $10 \div 2 = 5$ _____

b. $35 \div 7 = 5$ _____

c. $15 \div 5 = 3$ _____



1. In Mr. Mack's office, the telephone board has rows of holes which Miss Gunn uses to make calls for people in the office.

In the board in the picture, there are _____ rows with _____ holes in each.

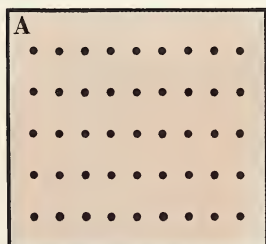
There are _____ columns of _____ holes each.

2. The whole story in M. and D. shown in the picture is about 5, 7, and 35.

The parts are:

M. $5 \times 7 =$ _____

D. $35 \div 7 =$ _____



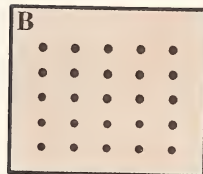
3. The whole story in M. and D. in box A is about 5, _____, and 45.

4. The four parts in this whole story are:

M. _____

D. _____

5. Box B. The whole story in M. and D. is about 5, _____, and 25.



This whole story has _____ parts:

$5 \times 5 =$ _____ $25 \div$ _____ = _____

C

6. Box C. Make a dot picture for the whole story about 5, 6, and 30. The parts of this whole story are:

M. _____

D. _____

Write whole stories about:

7. 5, 8, and 40. 8. 2, 5, and 10.

9. 5, 4, and 20. 10. 3, 5, and 15.

Multiplication Facts for 5's

$\begin{array}{r} 5 \\ \times 1 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 9 \\ \hline \end{array}$
--	--	--	--	--	--	--	--	--

Multiplication Facts for 5

$\begin{array}{r} 1 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$
--	--	--	--	--	--	--	--	--

Finish the tables above. Be sure your products are correct. Then learn the M. facts for 5's and for 5.

Multiplication Practice

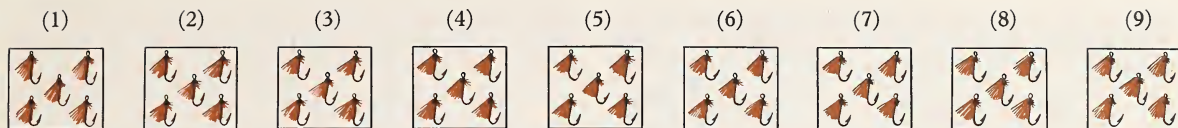
Write the products. Use study cards for hard facts.

	a	b	c	d	e	f	g	h	i	j
1.	$\begin{array}{r} 5 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 4 \\ \hline \end{array}$
2.	$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 5 \\ \hline \end{array}$
3.	$\begin{array}{r} 4 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$

Multiply and check.

	a	b	c	d	e	f	g	h	i
4.	$\begin{array}{r} 154 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 97 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 108 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 105 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 63 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 45 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 128 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 135 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 172 \\ \times 5 \\ \hline \end{array}$
5.	$\begin{array}{r} 213 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 89 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 436 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 251 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 94 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 53 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 706 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 315 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 452 \\ \times 8 \\ \hline \end{array}$

Making Tables of Division Facts



1. Finish the D. facts with divisor 5.
If you need help, use the picture above
or subtract 5's on another piece of paper.

Division Facts, Divisor 5

$$5 \div 5 = \text{-----} \quad \text{-----} \div 5 = 5$$

$$10 \div 5 = \text{-----} \quad 30 \div 5 = \text{-----}$$

$$\text{-----} \div 5 = 3 \quad 35 \div 5 = \text{-----}$$

$$20 \div 5 = \text{-----} \quad \text{-----} \div 5 = 8$$

$$45 \div 5 = \text{-----}$$

2. Finish the table of D. facts with
quotient 5. If you need help, make
subtraction examples or use M. facts.

Division Facts, Quotient 5

$$5 \div 1 = \text{-----} \quad 25 \div \text{-----} = 5$$

$$10 \div 2 = \text{-----} \quad 30 \div 6 = \text{-----}$$

$$15 \div \text{-----} = 5 \quad 35 \div \text{-----} = 5$$

$$20 \div 4 = \text{-----} \quad 40 \div 8 = \text{-----}$$

$$45 \div \text{-----} = 5$$

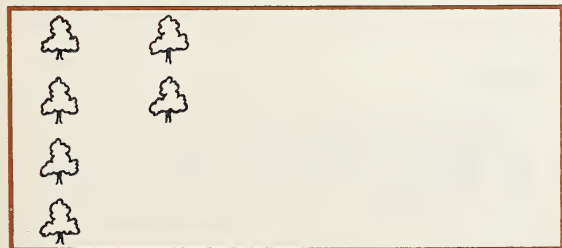
Fraction Facts with 5

1. Mr. Gray planted 20 apple trees in
4 equal rows. How many trees were in
each row?

The number question is, "How many are
there in each of the 4 equal parts of 20?"
or "Each $\frac{1}{4}$ of 20 = ?"

a. Finish the picture so that it will show
20 trees in 4 equal rows.

$$\frac{1}{4} \text{ of } 20 = \text{-----}$$



b. Use the D. fact $20 \div 4 = 5$.

$$\frac{1}{4} \text{ of } 20 = \text{-----}$$

Finish the fraction facts in Ex. 2 to 5.
Use your table of D. facts with divisor 5
to help you.

a

b

$$2. \quad \frac{1}{5} \text{ of } 30 = \text{-----} \quad \frac{1}{5} \text{ of } 10 = \text{-----}$$

$$3. \quad \frac{1}{5} \text{ of } 35 = \text{-----} \quad \frac{1}{5} \text{ of } 15 = \text{-----}$$

$$4. \quad \frac{1}{5} \text{ of } 40 = \text{-----} \quad \frac{1}{5} \text{ of } 25 = \text{-----}$$

$$5. \quad \frac{1}{5} \text{ of } 20 = \text{-----} \quad \frac{1}{5} \text{ of } 45 = \text{-----}$$

Finish the fraction facts in Ex. 6 to 8.
Use your table of D. facts with quotient 5
to help you.

$$6. \quad \frac{1}{4} \text{ of } 20 = \text{-----} \quad \frac{1}{6} \text{ of } 30 = \text{-----}$$

$$7. \quad \frac{1}{7} \text{ of } 35 = \text{-----} \quad \frac{1}{3} \text{ of } 15 = \text{-----}$$

$$8. \quad \frac{1}{8} \text{ of } 45 = \text{-----} \quad \frac{1}{8} \text{ of } 40 = \text{-----}$$

Do You Know the Right Names?

A	B
$\begin{array}{r} 7 \\ \times 5 \\ \hline 35 \end{array}$	$\begin{array}{r} \text{multiplier} \\ 5 \times 7 = 35 \end{array}$
<p>7 multiplicand</p> <p>× 5 multiplier</p> <p>35 product</p>	<p>multiplier</p> <p>multiplicand</p> <p>product</p>

C	D
$\begin{array}{r} 8 \\ 4 \overline{)32} \end{array}$	$32 \div 4 = 8$
<p>divisor</p> <p>dividend</p> <p>quotient</p>	<p>dividend</p> <p>divisor</p> <p>quotient</p>

1. Boxes A and B show two ways of writing a multiplication example. The number to be multiplied is called the The answer in multiplication is called the

2. Box E. The multiplier is The product is

E
$\begin{array}{r} 24 \\ \times 5 \\ \hline 120 \end{array}$

3. In box F, the multiplicand is The multiplier is

F
$9 \times 4 = 36$

4. In boxes E and F, which is larger, the multiplicand or the product?

When the multiplier is larger than 1, the product is usually larger than the multiplicand.

5. Write the products.

$\begin{array}{r} 42 \\ \times 8 \end{array}$	$\begin{array}{r} 217 \\ \times 5 \end{array}$	$\begin{array}{r} 105 \\ \times 9 \end{array}$	$\begin{array}{r} \$5.78 \\ \times 3 \end{array}$
---	--	--	---

6. Look at boxes C and D. You know both these ways of writing a division example. The answer in division is called the The number that is to be divided is called the

7. Box G. The dividend is The divisor is

G
$\begin{array}{r} 5 \\ 6 \overline{)30} \end{array}$

8. In box H, the quotient is The dividend is

H
$12 \div 4 = 3$

9. In boxes G and H, which is larger, the dividend or the quotient?

When the divisor is larger than 1, the quotient is usually smaller than the dividend.

10. Write the quotients.

$5 \overline{)35}$	$9 \overline{)36}$	$8 \overline{)40}$	$3 \overline{)24}$
--------------------	--------------------	--------------------	--------------------

Can You Tell when Answers Are Wrong?

1. In Ex. a and b, cross out the word in the () that is wrong.

a. When a multiplier is larger than 1, the product is almost always (**larger**, **smaller**) than the multiplicand.

b. When a divisor is larger than 1, the quotient is usually (**larger**, **smaller**) than the dividend.

Without working Ex. 2 to 7, put X on answers that you know must be wrong.

2. Joy earns 20¢ an hour helping her mother. Saturday she worked 4 hours and earned (80¢, 75¢, 16¢).

3. Pencils cost 5¢ each. With 70¢ you can buy (90, 10, 14) pencils.

4. 60 flowers will make 4 equal groups of (100, 15, 30) flowers each.

5. Ann has read $\frac{1}{4}$ of the 108 pages in her book. She has read (27, 32, 432) pages.



6. We tied old books in bundles of 5. We had 95 old books, so we had (115, 25, 19) bundles.

7. A bundle weighed 6 pounds. Twelve bundles weighed (2, 18, 72) pounds.

Now work Ex. 2 to 7 on another sheet of paper. Write your answers here:

2. _____ 3. _____ 4. _____

5. _____ 6. _____ 7. _____

Making Tables of Division Facts with 5

Finish the tables below. Be sure your quotients are correct. Then learn the facts in the tables.

Division Facts, Divisor 5

5)5 5)10 5)15 5)20 5)25 5)30 5)35 5)40 5)45

Division Facts, Quotient 5

1)5 2)10 3)15 4)20 5)25 6)30 7)35 8)40 9)45

Division Practice

Write quotients for rows 1 to 3. Write all the work for row 4.

a	b	c	d	e	f	g
1. $5\overline{)20}$	$6\overline{)30}$	$9\overline{)36}$	$5\overline{)15}$	$3\overline{)24}$	$9\overline{)45}$	$5\overline{)35}$
2. $7\overline{)21}$	$3\overline{)15}$	$8\overline{)40}$	$5\overline{)45}$	$4\overline{)20}$	$7\overline{)28}$	$4\overline{)24}$
3. $5\overline{)10}$	$7\overline{)35}$	$5\overline{)40}$	$9\overline{)27}$	$5\overline{)25}$	$4\overline{)28}$	$5\overline{)30}$
4. $5\overline{)305}$	$7\overline{)357}$	$8\overline{)408}$	$9\overline{)369}$	$5\overline{)405}$	$5\overline{)555}$	$6\overline{)306}$

Remainders in Division

1. In the example $5\overline{)18}$, you use the table number _____. The answer is 3, R_____.

2. You know these table numbers for 5:
5, 10, 15, 20. Write the table number to use for: 9 _____; 21 _____; 17_____.

3. There are five new table numbers for dividing by 5. Finish the work.

25 Use with 26, 27, 28, 29.

30 Use with 31, 32, 33, 34.

35 Use with 36, 37, _____, _____.

40 Use with 41, _____, _____, _____.

45 Use with _____, _____, _____, _____.

4. The numbers 6, 7, 8, and 9 have new table numbers, too. Finish the work.

In dividing by	Use the table number	To divide the numbers
6	30	31 to 35
7	35	_____ to 41
8	40	_____ to 47
9	45	_____ to 53

Find quotients and remainders.

a	b	c	d
5. $5\overline{)28}$	$6\overline{)34}$	$5\overline{)42}$	$9\overline{)46}$

Write quotients with remainders.

a b c d e f g

6. $6\overline{)29}$ $5\overline{)47}$ $3\overline{)17}$ $8\overline{)46}$ $3\overline{)29}$ $7\overline{)30}$ $5\overline{)22}$

7. $9\overline{)37}$ $5\overline{)43}$ $7\overline{)38}$ $3\overline{)26}$ $4\overline{)21}$ $5\overline{)31}$ $9\overline{)48}$

8. Finish the division in the box.

$43 \div 5 = ?$ The table number is

$38 \div 5 = ?$ The table number is

The remainder in the answer is

Divide in row 9.

a b c d e f

9. $8\overline{)203}$ $9\overline{)468}$ $5\overline{)125}$ $4\overline{)216}$ $5\overline{)488}$ $6\overline{)327}$

$$\begin{array}{r} 5\overline{)438} \\ \underline{40} \\ 38 \end{array}$$

Practice for Carrying in Multiplication

Write the answers.

- | | | |
|-----------------------------|------------------------------|------------------------------|
| 1. $2 \times 9 + 1 =$ | 6. $3 \times 4 + 2 =$ | 11. $7 \times 5 + 5 =$ |
| 2. $9 \times 5 + 6 =$ | 7. $4 \times 7 + 3 =$ | 12. $3 \times 8 + 2 =$ |
| 3. $6 \times 5 + 1 =$ | 8. $5 \times 8 + 4 =$ | 13. $5 \times 9 + 4 =$ |
| 4. $4 \times 9 + 2 =$ | 9. $6 \times 4 + 3 =$ | 14. $8 \times 5 + 1 =$ |
| 5. $5 \times 7 + 4 =$ | 10. $8 \times 4 + 4 =$ | 15. $7 \times 4 + 6 =$ |

Finding **n** in Multiplication Examples

$7 \times 5 = 35$. The multiplier, 7, and the multiplicand, 5, are called factors.

1. $3 \times 8 = 24$. Factors: 3 and ----

2. $9 \times 4 = 36$. Factors: ---- and ----

Factors multiplied together give the product.

If you know $7 \times 5 = 35$, you can find the value of **n** in each of Ex. 3 to 6. Write the value of **n** after each example.

3. $7 \times n = 35$ ---- 5. $35 = n \times 5$ ----

4. $n \times 5 = 35$ ---- 6. $35 = 7 \times n$ ----

If you know the product and one factor, you can find the other factor. Divide the product by the factor that is given.

In the box below, write the numbers that **n** stands for in Ex. 7 to 18.

7. $8 \times 5 = n$

13. $n = 4 \times 8$

8. $6 \times n = 24$

14. $4 \times n = 52$

9. $30 = n \times 6$

15. $108 = 3 \times n$

10. $21 = 7 \times n$

16. $n \times 5 = 245$

11. $n \times 5 = 25$

17. $5 \times 68 = n$

12. $3 \times n = 27$

18. $84 = n \times 2$

Answers: 7. ---- 8. ---- 9. ----

10. ---- 11. ---- 12. ----

13. ---- 14. ---- 15. ----

16. ---- 17. ---- 18. ----

A New Kind of Fraction

1. Rectangle A is divided into ---- equal parts. The name of one of the equal parts is one sixth. We write this $\frac{1}{6}$.



2. Write the name of one of the equal parts of square B ----; of circle C ----; of rectangle D ----.

B



C



D



3. Rectangle A: ---- sixth ($\frac{1}{6}$) is brown; ---- one sixths ($\frac{3}{6}$) are white; and ---- one sixths ($\frac{2}{6}$) are gray.

4. See how the fractions are written in figures in Ex. 3. Then finish these:

	Brown Part	White Part	Gray Part
Square B	$\frac{2}{9}$	$\frac{3}{9}$	$\frac{4}{9}$
Circle C	$\frac{2}{5}$	$\frac{3}{5}$	----
Rectangle D	$\frac{2}{8}$	$\frac{3}{8}$	----

5. Write in figures:

- a. two fifths ---- c. two eighths ----
b. four ninths ---- d. six tenths ----

6. Draw lines between things that have the same meaning.

four fifths	$\frac{5}{8}$	two tenths	$\frac{4}{7}$
five sixths	$\frac{4}{5}$	three fifths	$\frac{8}{9}$
five eighths	$\frac{2}{9}$	eight ninths	$\frac{2}{10}$
two ninths	$\frac{5}{6}$	four sevenths	$\frac{3}{5}$

7. The fractions below tell about equal parts of circles. In each fraction draw a ring around the number that shows how many equal parts in the whole circle.

$\frac{5}{8}$ $\frac{3}{5}$ $\frac{6}{7}$ $\frac{2}{9}$

In a fraction, the number below the line tells how many equal parts there are in the whole.

8. In $\frac{7}{9}$, the 9 tells us that the name of each of the equal parts is one -----.

9. The figure below the fraction line is the denominator.

- a. The denominator in $\frac{9}{10}$ is -----.
b. The denominator in $\frac{2}{3}$ is -----.

The number above the fraction line tells how many equal parts there are in the fraction. It is the numerator.

10. The numerator in $\frac{2}{7}$ is -----.
11. The numerator in $\frac{5}{8}$ is -----.

Write the fractions for Ex. 12 to 14.

12. An apple is cut into 6 equal pieces.

You eat 3 pieces, or -----.

13. The numerator is 7, and the denominator is 10. -----

14. I gave away 2 of the 5 equal pieces of a candy bar, or ----- of it.

Time for Practice!

For each of Ex. 1 to 6, draw a ring around the estimated answer that is best.

- | | | | |
|------------------|----|-----|----|
| 1. $49 + 38 = ?$ | 50 | 90 | 30 |
| 2. $92 - 41 = ?$ | 30 | 110 | 50 |
| 3. $61 - 39 = ?$ | 20 | 90 | 40 |
| 4. $37 + 31 = ?$ | 50 | 60 | 70 |
| 5. $53 + 21 = ?$ | 90 | 70 | 50 |
| 6. $88 - 52 = ?$ | 40 | 20 | 80 |

Do what the signs tell you to do.

- | a | b | c | d |
|-----------------------|--------------------|--------------------|--------------------|
| 7. $4,000$ | 78 | \$ 13.11 | 298 |
| $- 2,097$ | $\times 5$ | $+ 18.19$ | $\times 4$ |
| 8. $5 \overline{)45}$ | $6 \overline{)22}$ | $4 \overline{)38}$ | $9 \overline{)27}$ |

Can You Tell?

1. Divide the box at the right into sixths. Make $\frac{4}{6}$ of it black.



2. Write a number with 7 in thousand's place. -----

3. Finish the example in the box so that you must carry both hundreds and thousands.

$$\begin{array}{r} 5,462 \\ + \quad \quad \quad \end{array}$$

4. Write the table numbers for dividing by 7.

5. Write estimated answers for

a. $42 + 49$ ----- b. $88 - 31$ -----

6. In $4 \times 2 = 8$, the multiplier is -----.

Draw a line under the correct words or numbers in the ().

7. Products are almost always (larger, smaller) than multiplicands.

8. The figure above the fraction line is the (numerator, denominator).

9. In figures, five sevenths is ($\frac{7}{5}$, $\frac{5}{7}$).

10. $n + 17 = 50$. $n = (33, 67)$.

11. To find $\frac{1}{5}$ of 495, you (multiply, divide) 495 by 5.

12. The table number to use for the example $47 \div 8$ is (40, 45).

13. In the number 5,097, there are (0, 50) hundreds in all.

14. Quotients are almost always (larger, smaller) than dividends.

Chapter Test 3

Do what the signs tell you to do.

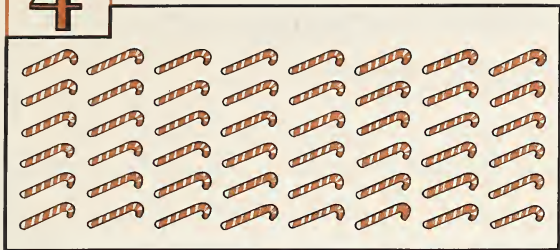
1. 109×5 2. $1,083 - 777$ 3. $5,101 - 4,812$ 4. $\$0.87 \times 5$ 5. 154×6 6. $864 + 5,905$

7. $\$0.76 \times 5$ 8. $9,000 - 3,453$ 9. $3,417 + 2,583$ 10. $\$1.75 \times 4$ 11. $\$1.05 \times 7$ 12. $\$17.74 - 9.50$

13. $5 \overline{)316}$ 14. $7 \overline{)794}$ 15. $4 \overline{)995}$ 16. $7 \overline{)875}$ 17. $8 \overline{)435}$ 18. $5 \overline{)\$9.45}$

Whole Stories with 6 in M. and D.

4



1. In this picture, the 48 candy canes are in ____ columns with ____ in each column.

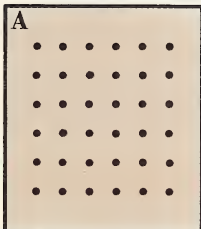
2. The canes are also in ____ rows with ____ canes in each row.

3. Finish the 4 facts in the whole story in M. and D. about 6, 8, and 48.

M. $6 \times ______ = 48$ $8 \times ______ = ______$

D. $48 \div 6 = ______$ $48 \div ______ = ______$

4. In box A there are 36 dots in ____ rows of ____ and in ____ columns of ____.



5. The whole story shown in box A has only two parts. They are:

M. _____ D. _____



6. You know the parts of the whole story for box B.

Write the whole story about box B.

M. _____

D. _____

7. How many 7's can be subtracted

from 42 (box C)? _____

8. Write Ex. 7 as a D. fact.

$42 \div 7 = ______$

9. The 3 other facts that go with the D. fact in Ex. 8 to make the whole story about 6, 7, and 42 are:

D. _____

M. _____

M. _____

10. Box D. The sum of nine 6's is _____.

11. Write the example in box D as a M. fact:

_____ $\times 6 = ______$

12. The 3 other facts that go with the M. fact in Ex. 11 are:

M. _____

D. _____

D. _____

C

42
- 7

35
- 7

28
- 7

21
- 7

14
- 7

7
- 7

0

D

6
6
6
6
6
6
6
6
6
+ 6

54

Use your work above to find wrong answers. Put X on each wrong answer.

13. $5 \times 6 = 30$

18. $54 \div 6 = 7$

14. $9 \times 6 = 45$

19. $48 \div 6 = 8$

15. $6 \times 8 = 48$

20. $30 \div 5 = 6$

16. $7 \times 6 = 35$

21. $36 \div 6 = 6$

17. $8 \times 6 = 42$

22. $42 \div 6 = 6$

Multiplication Facts with 6

A	B	C	D	E	F
4	7	9	5	8	6
4	7	9	5	8	6
4	7	9	5	8	6
4	7	9	5	8	6
4	7	9	5	8	6
$\begin{array}{r} +4 \\ 24 \end{array}$	$\begin{array}{r} +7 \\ 42 \end{array}$	$\begin{array}{r} +9 \\ 54 \end{array}$	$\begin{array}{r} +5 \\ 30 \end{array}$	$\begin{array}{r} +8 \\ 48 \end{array}$	$\begin{array}{r} +6 \\ 36 \end{array}$

1. Write Ex. A to E as M. facts. After each, write the M. fact that goes with it.

A. $6 \times 4 = \dots$ $4 \times \dots = \dots$

B. $6 \times \dots = \dots$ $\dots \times 6 = \dots$

C. $\dots \times \dots = \dots$

D. $\dots \times \dots = \dots$

E. $\dots \times \dots = \dots$

2. Write Ex. F as a M. fact:

$\dots \times \dots = \dots$ Has it another M.

fact to make a pair? $\dots \times \dots = \dots$

Finish these pairs of M. facts:

3. $6 \times 3 = 18$ 4. $2 \times 6 = \dots$

$\dots \times \dots = \dots$ $\dots \times \dots = \dots$

Circle "Yes" or "No" for your answer.

5. Should 6 boxes, each 7 inches high, make a pile 48 inches high?

Yes No

6. Will 6 stones, each weighing 6 pounds, weigh 36 pounds in all?

Yes No

7. In nine 6-letter words, is there a total of 54 letters?

Yes No

8. If you take 6 steps 8 times, will you take 51 steps?

Yes No

9. Must you pay 42¢ for seven 6¢ toys?

Yes No

10. Finish the tables below. Learn all the facts.

Multiplication Facts for 6's

6	6	6	6	6	6	6	6	6
$\times 1$	$\times 2$	$\times 3$	$\times 4$	$\times 5$	$\times 6$	$\times 7$	$\times 8$	$\times 9$

Multiplication Facts for 6

1	2	3	4	5	6	7	8	9
$\times 6$	$\times 6$	$\times 6$	$\times 6$	$\times 6$	$\times 6$	$\times 6$	$\times 6$	$\times 6$

Naming the Answer

For Ex. 1 to 9, find in the () the right name for each answer and draw a line under it.

1. Our small car can go 23 miles on 1 gallon of gasoline. On 5 gallons it can go 115 (gallons, miles, trips).

2. A larger car went 95 miles on 5 gallons of gasoline. On 1 gallon it went 19 (hours, gallons, miles).

3. If $\frac{1}{6}$ of Tom's 24 coins are cents, he has 4 (cents, coins, sixths).

4. On each calendar he sells, Jack makes 4¢. On 8 calendars he makes 32 (cents, calendars, sales).

5. Three girls shared 21 cherries equally. Each girl got 7 (cherries, parts, shares).

6. When the party began, 28 people were there. After 5 girls left, there were 23 (girls, people, boys).

7. Five nickels, 2 dimes, and 18 cents make 25 (cents, nickels, coins) in all.

8. In 8 gallon cans of milk there are 32 (quarts, cans, gallons).

9. The children brought 7 puppies, 2 rabbits, and 5 kittens to the pet show, or 14 (puppies, children, animals) in all.



The Signs Tell You What to Do

	a	b	c
1.	140 <u>× 6</u>	8,476 <u>− 3,926</u>	\$ 0.78 <u>× 5</u>

2.	50¢ 9¢ 20¢ <u>+ 17¢</u>	2,064 1,857 <u>+ 3,086</u>	\$ 21.97 0.48 <u>+ 8.54</u>
----	----------------------------------	----------------------------------	-----------------------------------

3.	145 <u>× 7</u>	3,000 <u>− 278</u>	\$ 41.21 <u>− 36.29</u>
----	-------------------	-----------------------	----------------------------

4.	247 <u>× 4</u>	7,580 <u>− 3,409</u>	\$ 1.05 <u>× 9</u>
----	-------------------	-------------------------	-----------------------

	a	b	c
5.	<u>3)234</u>	<u>6)324</u>	<u>4)\$ 2.16</u>

6.	<u>8)923</u>	<u>3)587</u>	<u>5)\$ 7.95</u>
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Practice in Multiplication

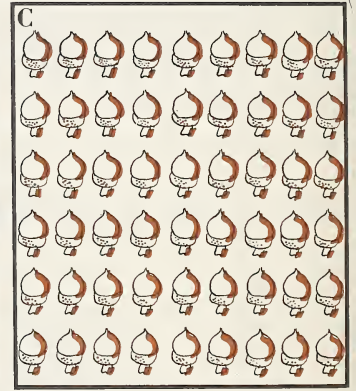
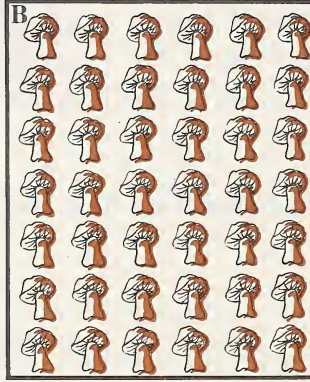
a	b	c	d	e	f	g	h	i	j
1. $\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 9 \\ \hline \end{array}$

2. $\begin{array}{r} 6 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 4 \\ \hline \end{array}$
---	--	--	--	--	--	--	--	--	--

3. $\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 1 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 5 \\ \hline \end{array}$
---	--	--	--	--	--	--	--	--	--

a	b	c	d	e	f	g	h
4. $\begin{array}{r} 109 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 56 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 62 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 160 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 265 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 63 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 128 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 146 \\ \times 5 \\ \hline \end{array}$

Division Facts with 6



1. Each of pictures A, B, and C shows two division facts. Write the facts here:

By Rows

By Columns

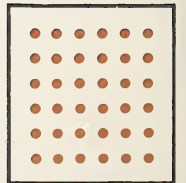
A. $48 \div 8 = \underline{\quad}$ $48 \div \underline{\quad} = \underline{\quad}$

B. $42 \div 6 = \underline{\quad}$ $42 \div \underline{\quad} = \underline{\quad}$

C. $54 \div \underline{\quad} = \underline{\quad}$ $\underline{\quad} \div \underline{\quad} = \underline{\quad}$

2. Do most D. facts go in pairs?

3. Write the one D. fact shown in this dot picture.



Write the D. fact that goes with

4. $18 \div 3 = 6$ $\underline{\quad} \div \underline{\quad} = \underline{\quad}$

5. $30 \div 6 = 5$ $\underline{\quad} \div \underline{\quad} = \underline{\quad}$

6. $12 \div 2 = 6$ $\underline{\quad} \div \underline{\quad} = \underline{\quad}$



If Ex. 7 is correct, put \checkmark on the line before it. If it is wrong, put X.

---- 7. Ann put away 42 glasses. She made 7 rows of 6 glasses each.

Are there seven 6's in 42? If you do not know, subtract 6's from 42 or use the M. fact $7 \times 6 = 42$.

Do Ex. 8 to 18 in the same way. If you need help, subtract or use M. facts.

---- 8. You need 8 bags for 36 apples if you put 6 apples in each bag.

---- 9. 54¢ will buy 6 balls that sell for 9¢ each.

---- 10. 30 inches of ribbon will make 8 doll hair ribbons each 6 inches long.

---- 11. Ann's book has 42 pages. If she reads 7 pages a day, she will finish the book in 5 days.

---- 12. You can cut 7 boards, each 8 inches long, from a board that is 48 inches long.

---- 13. If you write 5 words in a row, 30 words will make 6 rows.

---- 14. Miss Ward asked 24 children to stand in groups of 6. The 24 children made 3 groups.

---- 15. $6 = \frac{1}{2}$ dozen. So 54 oranges make 9 half dozens.

---- 16. If you use 6 pins for a doll dress, 48 pins are enough for 9 dresses.

---- 17. You can subtract seven 4's from 24.

---- 18. Sally has 36 Dutch pictures. If she pastes them in her scrapbook 6 to a page, they will fill 6 pages.



19. Finish the tables below. Be sure your quotients are correct.

Division Facts, Divisor 6

$6 \overline{)6}$ $6 \overline{)12}$ $6 \overline{)18}$ $6 \overline{)24}$ $6 \overline{)30}$ $6 \overline{)36}$ $6 \overline{)42}$ $6 \overline{)48}$ $6 \overline{)54}$

Division Facts, Quotient 6

$1 \overline{)6}$ $2 \overline{)12}$ $3 \overline{)18}$ $4 \overline{)24}$ $5 \overline{)30}$ $6 \overline{)36}$ $7 \overline{)42}$ $8 \overline{)48}$ $9 \overline{)54}$

Practice on Division Facts

Write the quotients. Use study cards for hard facts.

a	b	c	d	e	f	g	h
1. $6\overline{)12}$	$5\overline{)45}$	$9\overline{)36}$	$6\overline{)54}$	$8\overline{)32}$	$5\overline{)40}$	$6\overline{)24}$	$7\overline{)28}$
2. $4\overline{)24}$	$7\overline{)21}$	$6\overline{)36}$	$4\overline{)32}$	$6\overline{)18}$	$3\overline{)21}$	$9\overline{)54}$	$2\overline{)12}$
3. $9\overline{)45}$	$6\overline{)30}$	$4\overline{)28}$	$6\overline{)48}$	$7\overline{)42}$	$3\overline{)18}$	$4\overline{)36}$	$5\overline{)30}$
4. $8\overline{)48}$	$5\overline{)35}$	$6\overline{)42}$	$9\overline{)18}$	$2\overline{)14}$	$8\overline{)40}$	$4\overline{)16}$	$9\overline{)27}$

Fraction Facts with 6

Draw a line from each fraction example in column a to the D. fact in column b that gives the answer.

Write the answers for the fraction examples.

a	b	a	b
1. $\frac{1}{7}$ of 42 = -----	$24 \div 6 = 4$	6. $\frac{1}{6}$ of 48 = -----	$42 \div 6 = 7$
2. $\frac{1}{6}$ of 24 = -----	$30 \div 5 = 6$	7. $\frac{1}{6}$ of 42 = -----	$54 \div 9 = 6$
3. $\frac{1}{6}$ of 36 = -----	$42 \div 7 = 6$	8. $\frac{1}{9}$ of 54 = -----	$48 \div 6 = 8$
4. $\frac{1}{5}$ of 30 = -----	$48 \div 8 = 6$	9. $\frac{1}{3}$ of 18 = -----	$54 \div 6 = 9$
5. $\frac{1}{8}$ of 48 = -----	$36 \div 6 = 6$	10. $\frac{1}{6}$ of 54 = -----	$18 \div 3 = 6$

Write the answers. Use division facts as helpers.

a	b	c	d
11. $\frac{1}{2}$ of 12 = -----	$\frac{1}{4}$ of 24 = -----	$\frac{1}{6}$ of 30 = -----	$\frac{1}{9}$ of 54 = -----
12. $\frac{1}{6}$ of 36 = -----	$\frac{1}{6}$ of 54 = -----	$\frac{1}{7}$ of 42 = -----	$\frac{1}{6}$ of 12 = -----
13. $\frac{1}{6}$ of 18 = -----	$\frac{1}{6}$ of 42 = -----	$\frac{1}{5}$ of 30 = -----	$\frac{1}{6}$ of 24 = -----

n in Division Examples

1. For Ex. a to e, use the D. facts $12 \div 3 = 4$ and $12 \div 4 = 3$. On the lines write the numbers for **n**.

- a. $n \div 4 = 3$ $n = 12$
- b. $12 \div n = 3$ $n = \text{-----}$
- c. $12 \div 4 = n$ $n = \text{-----}$
- d. $n = 12 \div 4$ $n = \text{-----}$
- e. $n = 12 \div 3$ $n = \text{-----}$

2. Now use the D. facts $30 \div 5 = 6$ and $30 \div 6 = 5$. Write the numbers for **n**.

- a. $n \div 5 = 6$ $n = \text{-----}$
- b. $30 \div n = 6$ $n = \text{-----}$
- c. $30 \div 5 = n$ $n = \text{-----}$
- d. $n = 30 \div 5$ $n = \text{-----}$
- e. $n = 30 \div 6$ $n = \text{-----}$

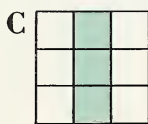
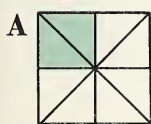
Find the numbers for **n** as you did in Ex. 1 and 2, and write them in the box.

- | a | b | c |
|--------------------|-----------------|---------------------------|
| 3. $n \div 5 = 4$ | $n = 24 \div 6$ | $42 \div n = 6$ |
| 4. $18 \div n = 9$ | $n \div 6 = 8$ | $n \div 5 = 7$ |
| 5. $28 \div 7 = n$ | $27 \div 9 = n$ | $n = 32 \div 8$ |
| 6. $n = 40 \div 5$ | $36 \div n = 6$ | $\frac{1}{2}$ of $18 = n$ |
| 7. $n \div 6 = 7$ | $n \div 4 = 8$ | $\frac{1}{6}$ of $36 = n$ |
| 8. $36 \div n = 4$ | $48 \div 8 = n$ | $\frac{1}{9}$ of $54 = n$ |

Answers

- | | | |
|----------|----------|----------|
| 3a ----- | 3b ----- | 3c ----- |
| 4a ----- | 4b ----- | 4c ----- |
| 5a ----- | 5b ----- | 5c ----- |
| 6a ----- | 6b ----- | 6c ----- |
| 7a ----- | 7b ----- | 7c ----- |
| 8a ----- | 8b ----- | 8c ----- |

Remembering about Fractions



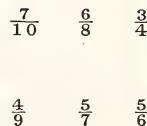
- Write the fraction for the green part in A -----; in B -----; in C -----.
- Write the fraction for the white part in A -----; in B -----; in C -----.
- Write in figures: two fifths -----; three sevenths -----; four tenths -----.

4. Put X on the fraction in the box that has a denominator of 7.

5. Circle the fraction in the box that has a numerator of 4.

6. Copy the fraction that says a whole has been divided into 6 equal parts. -----

7. Copy the fraction that has the largest denominator. -----



More Uneven Division

1. Finish the table below:

Dividing by	New Table Numbers	Use with the Dividends
6	36	37 to 41
6	42	----- to -----
6	48	----- to -----
6	54	----- to -----
7	42	----- to 48
8	48	----- to 55
9	54	----- to 62

Write quotients with remainders.

a	b	c	d
2. $6\overline{)38}$	$7\overline{)45}$	$6\overline{)59}$	$6\overline{)51}$
3. $8\overline{)50}$	$9\overline{)58}$	$6\overline{)56}$	$7\overline{)43}$
4. $7\overline{)38}$	$6\overline{)49}$	$9\overline{)55}$	$6\overline{)45}$

Divide in row 5.

a	b	c	d	e	f
5. $6\overline{)890}$	$5\overline{)348}$	$9\overline{)597}$	$6\overline{)478}$	$8\overline{)930}$	$7\overline{)450}$

The Signs Tell You What to Do

a	b	c	d	a	b	c
1. $\$1.69$ $\times 4$	$5,000$ $-4,278$	$\$1.48$ $\times 6$	$6,819$ -939	3. $6\overline{)548}$	$5\overline{)247}$	$9\overline{)549}$
2. 347 688 $+975$	$3,436$ 169 $+5,208$	$\$1.06$ $\times 9$	37¢ 22¢ $+40\text{¢}$			

0 Can Be a Quotient Figure

1. You have 0 pennies. If you give me $\frac{1}{3}$ of them, how many will I get?

$$\frac{1}{3} \text{ of } 0 = 0 \quad 0 \div 3 = \text{----} \quad 3 \overline{)0}$$

0 divided by any number equals 0.

Write the quotients for Ex. 2 to 4.

2. $8 \overline{)0}$ 3. $5 \overline{)0}$ 4. $\frac{1}{9}$ of 0 = ----

5. You have 4 cents and want to save $\frac{1}{5}$ of them. Will there be 1 cent to put in your bank? $\frac{1}{5}$ of 4 = $4 \div 5$.

See the box. We write the quotient 0 and show the remainder, 4, beside it.

$$\begin{array}{r} 0, R4 \\ 5 \overline{)4} \end{array}$$

When you cannot divide, write 0 in the quotient and show the remainder with R.

Write the answers.

a	b	c
6. $4 \overline{)3}$	$7 \overline{)4}$	$9 \overline{)6}$
7. $6 \overline{)3}$	$7 \overline{)0}$	$8 \overline{)4}$
8. $9 \overline{)2}$	$7 \overline{)2}$	$5 \overline{)3}$
9. $8 \overline{)5}$	$9 \overline{)5}$	$4 \overline{)0}$
10. $8 \overline{)3}$	$6 \overline{)0}$	$5 \overline{)2}$

0 as the Last Quotient Figure



1. Jane uses 4 place cards at each table. She has 40 cards in all. She has enough cards for how many tables? $40 \div 4 = ?$

Box A. Is there anything

new in dividing tens? ----

Ones: $0 \div 4 = \text{----}$. Is 0 the last quotient figure?

$$\begin{array}{r} \text{A} \\ \begin{array}{c} \text{Tens} \quad \text{Ones} \\ 1 \quad 0 \\ 4 \overline{)40} \\ 4 \quad \\ \hline 0 \end{array} \end{array}$$

2. 82 place cards would be enough for how many tables? See box B.

Tens: $8 \div 4 = \text{----}$.

Ones: $2 \div 4 = ?$ Is

0 in one's place in the quotient? ----

$$\begin{array}{r} \text{B} \\ 20, R2 \\ 4 \overline{)82} \\ 8 \\ \hline 2 \end{array}$$

What number is left over? ----

When you cannot make the last division, write 0 as a quotient figure and show the remainder.

Write the remainders.

3. $3 \overline{)92}$	4. $2 \overline{)81}$	5. $4 \overline{)\$6.43}$
$\underline{9}$	$\underline{8}$	$\underline{4}$
		2 4
		$\underline{2 \ 4}$

Finding Quotients

Divide. Watch 0 as the last quotient figure.

a

b

c

d

e

f

1. $3 \overline{)272}$

$8 \overline{)480}$

$5 \overline{)404}$

$9 \overline{)548}$

$9 \overline{)\$3.60}$

$8 \overline{)\$3.27}$

2. $2 \overline{)483}$

$6 \overline{)963}$

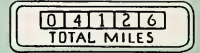
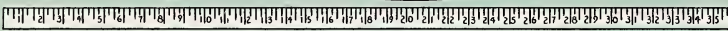
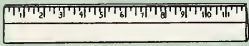
$7 \overline{)846}$

$4 \overline{)722}$

$6 \overline{)\$9.05}$

$4 \overline{)\$7.64}$

Measuring the Length of Things



All the things in the picture are used to measure how tall or how long or how wide other things are. When we measure in this way, we are using linear measure.

Units of linear measure are the inch, the foot, the yard, and the mile.

1. The unit of linear measure for short things is the _____; for long distances, the unit is the _____.

2. The short way to write "inch" or "inches" is _____. For "foot" or "feet" we can write _____. For "yard" or "yards" we use _____.

3. Put \checkmark after the things that we measure with the inch as the unit.

Length of

a ship ----	a kitten ----
a pencil ----	a garden ----
a bicycle ----	an airport ----

Width of

this page ----	a brick ----
an ocean ----	a street ----
a store ----	a picture ----

4. Put X after the things in Ex. 3 that we measure in feet or yards.

5. Put O after the things in Ex. 3 that we measure in miles.

12 inches (in.) = 1 foot (ft.)
 3 ft. = 1 yard (yd.) 1 yd. = 36 in.

6. How many feet in 4 yards?

1 yd. = 3 ft., so 4 yd. = 4×3 ft., or
 ----- ft.

7. 2 yd. = ----- ft.

8. 2 ft. = ----- in.

9. 9 ft. = ----- in.

10. How many yards in 9 feet?

----- ft. = 1 yd., so in 9 ft. there are as

many yards as there are 3's in 9.

3's in 9 = ----- 9 ft. = ----- yd.

11. 21 ft. = ----- yd.

12. 27 ft. = ----- yd.

13. 18 ft. = ----- yd.

14. 16 in. = ----- ft. and ----- in.

Multiplicands of Four Places

1. Four boxes, each holding 1,000 cards, hold how many cards in all?

$$4 \times 1,000 = ?$$

4 times 1 thousand = -----
 thousands. The work is in box A.

A
1,000
$\times 4$
4,000

2. If each box held 1,400 cards, how many would 4 boxes hold?

Box B. Ones and tens:
 Multiply as always.

$$\text{Hundreds: } 4 \times 4 = 16.$$

But 16 hundreds are the

same as 1 thousand and ----- hundreds.

Write ----- in hundred's column in the product and carry 1 thousand.

Thousands: $4 \times 1 =$ ----- Add the 1
 thousand carried and write -----.

B	Thousands	Hundreds	Tens	Ones
	1	4	0	0
			$\times 4$	4
	5	6	0	0

You multiply thousands as you multiply ones.

When the product in hundred's column means 10 or more, you carry.

You carry thousands as you carry tens.

Multiply. To check, multiply again.

a	b	c	d
3. 807	2,093	4,580	\$8.67
$\times 3$	$\times 4$	$\times 2$	$\times 5$

4. 487	759	1,165	\$16.95
$\times 4$	$\times 6$	$\times 8$	$\times 3$

5. 506	1,146	1,608	\$10.95
$\times 9$	$\times 7$	$\times 6$	$\times 5$

6. 943	1,034	532	\$4.30
$\times 6$	$\times 9$	$\times 7$	$\times 8$

4-Place Dividends with 3-Place Quotients

1. $\frac{1}{4}$ of 3,368 = ? Look at box A.

3 thousands $\div 4 = ?$

Are there thousands enough to divide by 4?

A

$$\begin{array}{r} 84 \\ 4 \overline{)3,368} \\ \underline{32} \\ 16 \\ \underline{16} \\ 0 \end{array}$$

Think of 3,368 as 33 hundreds and 6 tens and 8 ones.

33 hundreds $\div 4 = ?$ Is 8 in hundred's place in the quotient? _____

The 16 in box A means 16 _____.

Finish the work in box A.

2. In box A the dividend has _____

places and the quotient has _____ places.

3. $\frac{1}{6}$ of \$35.57 = ?

Study the division

in box B. For the

first division, you

think, "_____ $\div 6$."

B

$$\begin{array}{r} \$5.92, R5 \\ 6 \overline{) \$35.57} \\ \underline{30} \\ 55 \\ \underline{54} \\ 17 \\ \underline{12} \\ 5 \end{array}$$

The remainder in box B is _____. This means that there are 5 _____ left over.

Divide. To check, do the work again.

a

b

c

d

e

4. $2 \overline{) 1,846}$

b $5 \overline{) 3,075}$

c $4 \overline{) 3,683}$

d $8 \overline{) 3,680}$

e $6 \overline{) \$47.52}$

5. $9 \overline{) 4,644}$

$3 \overline{) 2,887}$

$7 \overline{) 4,583}$

$8 \overline{) 4,208}$

$9 \overline{) \$38.38}$

Traveling by Airplane



Circle "A." or "S." or "M." or "D." to show how to solve each problem.

1. An airplane that flies 325 miles in 1 hour can fly miles in 6 hours.

A. S. M. D.

2. The plane has 64 seats. On one trip, $\frac{1}{4}$ of the seats, or seats, were empty.

A. S. M. D.

3. Forty of the seats are in 4 equal rows, with seats in each row.

A. S. M. D.

4. On another trip there were 31 men, 19 women, and 6 children. That made a total of passengers.

A. S. M. D.

5. Five \$15.78 tickets cost in all.

A. S. M. D.

6. By train, it is 1,819 miles between two cities; by plane it is 1,650 miles, or miles less.

A. S. M. D.

7. Mr. Joy takes the 1,650-mile trip 3 times each month. He travels miles this way.

A. S. M. D.

Now find the answers for the problems.

1. 2. 3. 4.

5. 6. 7.

Time for Practice!

Work these examples. To check, do the work again.

$$\begin{array}{r} 1. \quad 975 \\ \times 4 \\ \hline \end{array} \quad \begin{array}{r} 2. \quad \$40.00 \\ - 36.87 \\ \hline \end{array} \quad \begin{array}{r} 3. \quad \$12.46 \\ \times 8 \\ \hline \end{array} \quad \begin{array}{r} 4. \quad 7 \overline{) \$45.71} \\ \hline \end{array} \quad \begin{array}{r} 5. \quad 8 \overline{) 2,920} \\ \hline \end{array} \quad \begin{array}{r} 6. \quad 6 \overline{) 2,581} \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad \$5.89 \\ \times 6 \\ \hline \end{array} \quad \begin{array}{r} 8. \quad 5,483 \\ - 876 \\ \hline \end{array} \quad \begin{array}{r} 9. \quad 3,079 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad \$6.05 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 11. \quad \$4.78 \\ 6.54 \\ + 18.09 \\ \hline \end{array} \quad \begin{array}{r} 12. \quad \$10.30 \\ + 59.81 \\ \hline \end{array}$$

Can You Tell?

Draw a line under the words or numbers in the () that make the sentences correct.

1. XXIX means (29, 12, 36).
2. To find $\frac{1}{6}$ of 18 we use the D. fact ($18 \div 2 = 9$, $18 \div 3 = 6$, $18 \div 6 = 3$).
3. $36 \div 6 = 6$ has (1, 2, 3) other facts in its whole story.
4. The table number to use for $50 \div 6$ is (42, 48, 54).
5. To find n in $42 \div n = 7$, you (multiply, divide) 42 by 7.
6. 4 ft. = (24, 48, 56) in.
7. 6 yd. = (2, 8, 18) ft.
8. 0 divided by any number equals (0, that number, 1).
9. In the example $4,347 \div 6$, the quotient will have (2, 3, 4) places.
10. In the division $432 \div 8 = 54$, 432 is the (divisor, quotient, dividend).
11. At quarter before 6 o'clock the minute hand is on (4, 8, 9, 11).
12. In the fraction $\frac{5}{8}$, 5 is the (numerator, denominator).
13. XLIV means (62, 44, 38).
14. In $7 \times 48 = 336$, the multiplicand is (7, 48, 336).
15. The shortest month in the year is (May, February, August).

Chapter Test 4

Do what the signs tell you to do. Work carefully.

	a	b	c
1.	$\begin{array}{r} 908 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 1,398 \\ -408 \\ \hline \end{array}$	$\begin{array}{r} \$17.90 \\ \times 3 \\ \hline \end{array}$
2.	$\begin{array}{r} \$19.08 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} \$8.57 \\ -2.59 \\ \hline \end{array}$	$\begin{array}{r} 625 \\ \times 8 \\ \hline \end{array}$
3.	$\begin{array}{r} 605 \\ 87 \\ 295 \\ +863 \\ \hline \end{array}$	$\begin{array}{r} \$7.57 \\ 0.98 \\ +36.09 \\ \hline \end{array}$	$\begin{array}{r} 84 \\ 207 \\ 7,888 \\ +97 \\ \hline \end{array}$

	a	b	c
4.	$6\overline{)5}$	$9\overline{)540}$	$4\overline{)\$2.83}$
5.	$6\overline{)936}$	$7\overline{)4,451}$	$9\overline{)\$37.16}$

More Whole Stories in M. and D.

5

1. Picture A. The cars at the drive-in movie are in 9 columns with 7 cars in a column. Count by 7's to find how many cars there are in all.

A



a. The M. fact is: _____

b. The M. fact that goes with the one

in Ex. a is: _____

c. The two D. facts that go with these M. facts are:

d. Have you found the whole story in

M. and D. about 9, 7, and 63? _____

2. Picture B. The parking lot has 7 cars

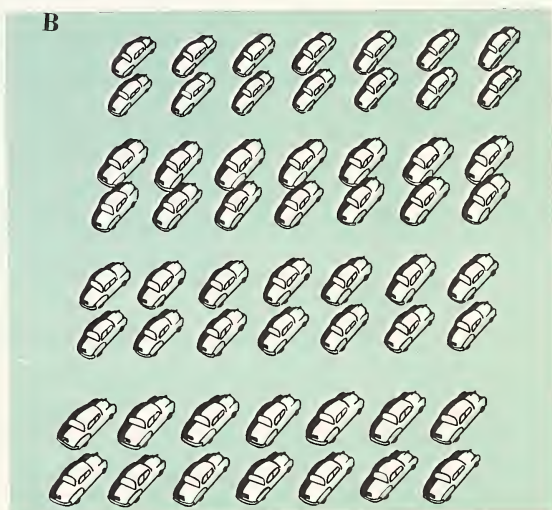
in a row. 56 cars make _____ rows.

Write the whole story about 7, 8, and 56.

M. _____

D. _____

B



3. The 49 X's in the box stand for the cars in another lot. The whole story has two parts:

X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X

4. Finish these whole stories:

a. $2 \times 7 = 14$ $7 \times _____ = _____$

$14 \div 7 = _____$ _____

b. $7 \times 5 = 35$ $5 \times _____ = _____$

$35 \div _____ = _____$ _____

c. $28 \div 4 = 7$ $28 \div _____ = 4$

d. $21 \div 7 = 3$ $21 \div _____ = _____$

e. $6 \times 7 = 42$ _____

$42 \div _____ = 6$ _____

Multiplication Facts with 7

1. Box A: If you add three 7's, the sum is _____. The M. fact is _____.

2. Write products for the M. examples below. If you need help, use box A.

$$\begin{array}{r} 7 \\ \times 4 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ \times 8 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ \times 5 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ \times 7 \\ \hline \end{array}$$

A

$$\begin{array}{r} 7 \\ + 7 \\ \hline 14 \end{array} \quad \begin{array}{r} 7 \\ + 7 \\ \hline 21 \end{array} \quad \begin{array}{r} 7 \\ + 7 \\ \hline 28 \end{array} \quad \begin{array}{r} 7 \\ + 7 \\ \hline 35 \end{array} \quad \begin{array}{r} 7 \\ + 7 \\ \hline 42 \end{array} \quad \begin{array}{r} 7 \\ + 7 \\ \hline 49 \end{array} \quad \begin{array}{r} 7 \\ + 7 \\ \hline 56 \end{array} \quad \begin{array}{r} 7 \\ + 7 \\ \hline 63 \end{array}$$

3. Write as M. facts:

Ex. B _____

Ex. C _____

Ex. D _____

4. Write products for the M. examples below. If you need help, find products by adding.

$$\begin{array}{r} 1 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 3 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 0 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 4 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 9 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$$

B C D

$$\begin{array}{r} 9 \\ + 9 \\ \hline 63 \end{array} \quad \begin{array}{r} 7 \\ + 7 \\ \hline 49 \end{array} \quad \begin{array}{r} 8 \\ + 8 \\ \hline 56 \end{array}$$

Put X on each wrong answer. Use your work above for help.

- | | | | | |
|----------------------|----------------------|----------------------|----------------------|-----------------------|
| a | b | c | d | e |
| 5. $6 \times 7 = 42$ | 7. $8 \times 5 = 54$ | 8. $7 \times 5 = 32$ | 9. $9 \times 7 = 63$ | 10. $7 \times 7 = 45$ |
| 6. $7 \times 9 = 56$ | 3. $3 \times 7 = 28$ | 4. $8 \times 7 = 56$ | 2. $2 \times 7 = 16$ | 1. $7 \times 3 = 21$ |

7. Finish the tables below. Circle the M. facts you have not studied before. Learn all the facts.

Multiplication Facts for 7's

$$\begin{array}{r} 7 \\ \times 1 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ \times 2 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ \times 3 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ \times 4 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ \times 5 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ \times 6 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ \times 8 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$$

Multiplication Facts for 7

$$\begin{array}{r} 1 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 3 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 4 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 8 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 9 \\ \times 7 \\ \hline \end{array}$$

Practice on Multiplication Facts

Think the answers and write them on the lines.

1. If Mrs. Tell buys 8 bunches of beets



like this one, she will get

----- beets.

2. 7 jumping jacks like this one cost

-----¢ in all.



3. 5 jumping jacks cost

a total of -----¢.

4. 5 candlesticks like this one will hold

----- candles.



5. For 9 such candle-

sticks you would need ----- candles.

6. 7 stars like this one would have a

total of ----- points.



7. To make 5 such stars, you

must draw ----- points.

Write the products for rows 8 to 10.

a	b	c	d	e	f	g	h	i	j
8. 4	9	7	4	9	6	7	7	6	2
$\times 7$	$\times 6$	$\times 6$	$\times 9$	$\times 7$	$\times 8$	$\times 3$	$\times 8$	$\times 5$	$\times 8$

9. 9	8	6	7	8	3	6	5	8	2
$\times 3$	$\times 7$	$\times 6$	$\times 7$	$\times 4$	$\times 8$	$\times 9$	$\times 7$	$\times 3$	$\times 9$

10. 7	8	3	4	7	9	6	3	7	6
$\times 0$	$\times 6$	$\times 7$	$\times 8$	$\times 5$	$\times 4$	$\times 7$	$\times 9$	$\times 4$	$\times 3$

The Signs Tell You What to Do

a	b	c	d
1. 597	207	4,810	756
$\times 7$	$\times 8$	$- 3,778$	$\times 6$

2. 27	48	8,113	3,952
48	9	$- 6,094$	79
90	6		$+ 896$
$+ 64$	8		
	$+ 7$		

a	b	c
3. $7 \overline{)425}$	$6 \overline{)1,076}$	$8 \overline{)3,650}$

Division Facts with 7

$14 \div 7 = ?$ In box A, cover all the numbers above 14. You can subtract only two 7's, so the D. fact is $14 \div 7 = 2$.

1. Using box A, write how many 7's can be subtracted

- a. from 28 --- d. from 56 ---
b. from 49 --- e. from 21 ---
c. from 35 --- f. from 63 ---
g. from 42 ---

2. Write D. facts for Ex. 1.

- a. $28 \div 7 =$ ---
b. $49 \div$ --- = ---
c. $35 \div$ --- = ---
d. $56 \div$ --- = ---
e. $21 \div$ --- = ---
f. $63 \div$ --- = ---
g. $42 \div$ --- = ---

A
63 — 7 56 — 7 49 — 7 42 — 7 35 — 7 28 — 7 21 — 7 14 — 7 7 — 7 0

3. Put \checkmark after the new facts in Ex. 2.

4. Write Ex. B and C as division facts.

Ex. B. $56 \div 8 =$ ---

Ex. C. $63 \div$ --- = ---

5. Write the missing numbers:

- a. $35 \div$ --- = 7
b. $49 \div$ --- = 7
c. $28 \div$ --- = 7
d. $56 \div$ --- = 7
e. $21 \div$ --- = 7
f. $63 \div$ --- = 7
g. $14 \div$ --- = 7
h. $42 \div$ --- = 7

B	C
56 — 8 48 — 8 40 — 8 32 — 8 24 — 8 16 — 8 8 — 8 0	63 — 9 54 — 9 45 — 9 36 — 9 27 — 9 18 — 9 9 — 9 0

6. Circle the new facts in Ex. 5.

7. Finish the tables below. Be sure your quotients are correct. Learn the facts.

Division Facts, Divisor 7

$7 \overline{)7}$ $7 \overline{)14}$ $7 \overline{)21}$ $7 \overline{)28}$ $7 \overline{)35}$ $7 \overline{)42}$ $7 \overline{)49}$ $7 \overline{)56}$ $7 \overline{)63}$

Division Facts, Quotient 7

$1 \overline{)7}$ $2 \overline{)14}$ $3 \overline{)21}$ $4 \overline{)28}$ $5 \overline{)35}$ $6 \overline{)42}$ $7 \overline{)49}$ $8 \overline{)56}$ $9 \overline{)63}$

8. Write the answers. Use the tables above for help.

$\frac{1}{5}$ of 35 = --- $\frac{1}{7}$ of 42 = --- $\frac{1}{8}$ of 56 = --- $\frac{1}{7}$ of 49 = --- $\frac{1}{7}$ of 63 = ---

Practice in Division

To test the quotient in Ex. 1a, you can use a related M. fact. *Think*, "How many 5's make 40? $8 \times 5 = 40$, so 8, not 9, is the correct quotient for $40 \div 5$."

Test the other answers for rows 1 to 5 in the same way. Cross out answers that are wrong.

a	b	c	d	e
1. $40 \div 5 = 9$	$14 \div 2 = 7$	$49 \div 7 = 6$	$48 \div 6 = 8$	$21 \div 7 = 4$
2. $63 \div 9 = 6$	$56 \div 8 = 7$	$45 \div 5 = 7$	$21 \div 3 = 7$	$56 \div 7 = 7$
3. $35 \div 7 = 5$	$54 \div 9 = 7$	$28 \div 4 = 7$	$40 \div 8 = 6$	$63 \div 7 = 9$
4. $\frac{1}{6}$ of 54 = 8	$\frac{1}{6}$ of 42 = 7	$\frac{1}{7}$ of 63 = 8	$\frac{1}{9}$ of 45 = 5	$\frac{1}{5}$ of 35 = 8
5. $\frac{1}{8}$ of 56 = 7	$\frac{1}{7}$ of 28 = 3	$\frac{1}{8}$ of 48 = 6	$\frac{1}{7}$ of 42 = 7	$\frac{1}{7}$ of 14 = 2

For rows 4 and 5, change the fraction facts to D. facts. In Ex. 4a, $\frac{1}{6}$ of 54 means the same as $54 \div 6$. Write the D. facts with the correct quotients.

4. _____

5. _____

Divide in Ex. 6 to 13. Ex. 6 is checked in the box below. Check your work for Ex. 9, 10, and 12.

6. $6 \overline{)419}$ 7. $7 \overline{)567}$ 8. $5 \overline{)4,804}$ 9. $9 \overline{)\$63.90}$

Check Ex. 6

$$\begin{array}{r} 69 \\ \times 6 \\ \hline 414 \\ + 5 \\ \hline 419 \end{array}$$

Check Ex. 9

Check Ex. 10

Check Ex. 12

10. $4 \overline{)3,742}$ 11. $8 \overline{)963}$ 12. $7 \overline{)637}$ 13. $8 \overline{)\$5.68}$

Uneven Division with 7

1. You have used these table numbers in dividing by 7:

7, -----, -----, -----, -----, 42.

2. The new table numbers for 7 are: 49, to use in dividing the numbers from 50 to 55;

56, for the numbers ----- to 62; and

63, for the numbers ----- to 69.

3. 8 has a new table number, 56, to use with the numbers ----- to 63.

4. 9 has a new table number, 63, to use with the numbers ----- to 71.

Find the quotients and remainders.

a	b	c	d
5. $7\overline{)40}$	$6\overline{)45}$	$9\overline{)57}$	$7\overline{)52}$
6. $8\overline{)50}$	$9\overline{)68}$	$5\overline{)37}$	$7\overline{)58}$
7. $7\overline{)69}$	$8\overline{)62}$	$7\overline{)50}$	$6\overline{)52}$

Divide in row 8.

a	b	c	d	e	f
8. $7\overline{)343}$	$8\overline{)610}$	$7\overline{)611}$	$9\overline{)651}$	$7\overline{)633}$	$7\overline{)3,276}$

Naming Answers in Problems

Do not solve problems 1 to 8. Just draw a line under the correct name for the answer in each one.

1. Tom had 42 marbles. He kept them in 3 boxes, the same number in each box. How many (marbles, parts, groups) were in each box?

2. Ted and Joe together had 3 times as many marbles as Tom's 42. That would be how many (times, boys, marbles)?

3. Tom gave $\frac{1}{7}$ of his 42 marbles to his brother. How many (parts, marbles, fractions) did his brother get?



4. In a game, Tom won 28 marbles, and Ted won half as many. How many (games, turns, marbles) did Ted win?

5. Joe paid 18¢ for 6 red marbles of the same kind. How many (cents, marbles, colors) was that for each?

6. If 164 marbles are divided equally among 4 boys, how many (marbles, shares, parts) should each boy get?

7. If each boy is given 9 of 63 marbles, how many (parts, boys, marbles) can share in the dividing?

8. Your share of 40 marbles is $\frac{1}{4}$. You should get how many (shares, marbles, fourths)?

Work the problems on another sheet of paper. Write your answers here.

1. _____ 2. _____ 3. _____ 4. _____
5. _____ 6. _____ 7. _____ 8. _____

Finding **n** When It Is a Dividend

$n \div 6 = 4$. $n = 24$ because $6 \times 4 = 24$.

1. $n \div 7 = 5$.

$n = 35$ because $7 \times \text{_____} = 35$.

2. $n \div 6 = 7$.

$n = \text{_____}$ because $6 \times 7 = \text{_____}$.

3. $n \div 9 = 4$.

$n = \text{_____}$ because $9 \times \text{_____} = \text{_____}$.

To find the dividend of a division example, multiply the quotient and the divisor.

On the line after each of Ex. 4 to 13, write the value of **n**.

4. $n \div 7 = 8$ _____ 6. $n \div 8 = 6$ _____

5. $n \div 4 = 9$ _____ 7. $n \div 9 = 7$ _____

8. $n \div 6 = 5$ _____ 11. $n \div 8 = 7$ _____

9. $n \div 9 = 6$ _____ 12. $n \div 9 = 3$ _____

10. $n \div 7 = 7$ _____ 13. $n \div 4 = 8$ _____

$n \div 6 = 15$. $n = 90$ because $6 \times 15 = 90$.

On another piece of paper, find the values of **n**. Write your answers on the lines after the examples.

14. $n \div 7 = 26$ _____

15. $n \div 5 = 39$ _____

16. $n \div 9 = 76$ _____

17. $n \div 4 = 68$ _____

18. $n \div 9 = 127$ _____

19. $n \div 4 = 237$ _____

So You Won't Forget

Write the fractions for Ex. 1 to 5.

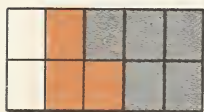


1. The measuring cup is -----

full.

2. If you use 4 of 7 equal parts of a ribbon, you use ----- of it.

3. ----- of this rectangle is gray.



4. ----- of it is white.

5. ----- of it is brown.



6. This clock shows

----- min. before -----,

or ----- min. past -----.

7. Write our number for XXXIV -----.

Draw a line under the correct words in the () in Ex. 8 to 11.

8. To find n in $36 - n = 18$, you (add 18 to 36, subtract 18 from 36).

9. To find n in $75 = 5 \times n$, you (divide 75 by 5, multiply 75 by 5).

10. To find n in $n \times 7 = 49$, you (divide 49 by 7, multiply 49 by 7).

11. To find n in $23 = n + 15$, you (add 23 and 15, subtract 15 from 23).

From the box, copy a number that is

12. a dividend -----

13. an addend -----

14. a multiplicand -----

15. a remainder -----

9	18
4) $\overline{36}$	$\times 7$
	126
45	70
$\begin{array}{r} + 22 \\ \hline 67 \end{array}$	$\begin{array}{r} - 23 \\ \hline 47 \end{array}$

Do what the signs tell you to do. To check, do the work again.

a	b	c	d	e	f	g
16. $\begin{array}{r} 859 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 8,601 \\ - 3,597 \\ \hline \end{array}$	$\begin{array}{r} \$ 1.76 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 1,643 \\ - 908 \\ \hline \end{array}$	$\begin{array}{r} 896 \\ + 430 \\ \hline \end{array}$	$\begin{array}{r} 879 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} \$ 0.89 \\ \times 7 \\ \hline \end{array}$

17. $\begin{array}{r} 367 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} \$ 9.78 \\ - 5.99 \\ \hline \end{array}$	$\begin{array}{r} 275 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 810 \\ - 448 \\ \hline \end{array}$	$\begin{array}{r} \$ 1.97 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 3,817 \\ + 2,358 \\ \hline \end{array}$	$\begin{array}{r} \$ 4.00 \\ - 1.49 \\ \hline \end{array}$
--	--	--	---	--	---	--

a	b	c	d	e	f
18. $\begin{array}{r} 436 \\ 225 \\ + 654 \\ \hline \end{array}$	$\begin{array}{r} 1,352 \\ 2,425 \\ + 358 \\ \hline \end{array}$	$\begin{array}{r} 46¢ \\ 9¢ \\ 5¢ \\ 8¢ \\ + 7¢ \\ \hline \end{array}$	$\begin{array}{r} 6 \overline{)1,074} \end{array}$	$\begin{array}{r} 7 \overline{)612} \end{array}$	$\begin{array}{r} 4 \overline{) \$ 27.63} \end{array}$

Quick Subtractions in Division

In division examples like the one in box A, you often make subtractions such as $47 - 42$ and $58 - 54$.

The quick way is to look at the numbers and then to *think* just the remainders. For $47 - 42$, *think* just "5." For $58 - 54$, *think* "4."

A

$$\begin{array}{r} 79, R4 \\ 6 \overline{)478} \\ \underline{42} \\ 58 \\ \underline{54} \\ 4 \end{array}$$

1. For Ex. B, *think*

2. For Ex. C, *think*

B

$$\begin{array}{r} 38 \\ - 35 \\ \hline \end{array}$$

C

$$\begin{array}{r} 29 \\ - 23 \\ \hline \end{array}$$

Think remainders for rows 3 to 7 this quick way and write the remainders below the examples.

	a	b	c	d	e
3.	$\begin{array}{r} 39 \\ - 32 \\ \hline \end{array}$	$\begin{array}{r} 67 \\ - 63 \\ \hline \end{array}$	$\begin{array}{r} 86 \\ - 80 \\ \hline \end{array}$	$\begin{array}{r} 45 \\ - 42 \\ \hline \end{array}$	$\begin{array}{r} 73 \\ - 72 \\ \hline \end{array}$
4.	$\begin{array}{r} 25 \\ - 24 \\ \hline \end{array}$	$\begin{array}{r} 64 \\ - 62 \\ \hline \end{array}$	$\begin{array}{r} 49 \\ - 48 \\ \hline \end{array}$	$\begin{array}{r} 38 \\ - 31 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ - 73 \\ \hline \end{array}$
5.	$\begin{array}{r} 59 \\ - 52 \\ \hline \end{array}$	$\begin{array}{r} 76 \\ - 74 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ - 63 \\ \hline \end{array}$	$\begin{array}{r} 49 \\ - 40 \\ \hline \end{array}$	$\begin{array}{r} 87 \\ - 85 \\ \hline \end{array}$
6.	$\begin{array}{r} 18 \\ - 12 \\ \hline \end{array}$	$\begin{array}{r} 55 \\ - 53 \\ \hline \end{array}$	$\begin{array}{r} 37 \\ - 34 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ - 75 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ - 67 \\ \hline \end{array}$
7.	$\begin{array}{r} 57 \\ - 56 \\ \hline \end{array}$	$\begin{array}{r} 99 \\ - 93 \\ \hline \end{array}$	$\begin{array}{r} 46 \\ - 42 \\ \hline \end{array}$	$\begin{array}{r} 59 \\ - 54 \\ \hline \end{array}$	$\begin{array}{r} 28 \\ - 26 \\ \hline \end{array}$

Practice in Multiplication

	a	b	c	d	e	f	g	h	i
1.	$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 9 \\ \hline \end{array}$
2.	$\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$
3.	$\begin{array}{r} 6 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 6 \\ \hline \end{array}$
4.	$\begin{array}{r} 79 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 98 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 74 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 58 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 67 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 89 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 56 \\ \times 9 \\ \hline \end{array}$
5.	$\begin{array}{r} 22 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 37 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 70 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 69 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 46 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 25 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 72 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 95 \\ \times 7 \\ \hline \end{array}$

0 as the Middle Quotient Figure

1. $\frac{1}{6}$ of 636 = ?

Box A. Divide hundreds:

$6 \div 6 = \dots$. Write "1" in

----- place

in the quotient. Multiply
and subtract.

Bring down 3 -----

Box B. Divide tens. $3 \div 6 = 0$. Write
"0" in ----- place in the quotient.

Bring down 6 ones. Divide ones: $36 \div 6$
= ----- Write "6" in ----- place
in the quotient. Multiply and subtract.

Finish the divisions in row 2.

2. $\begin{array}{r} 30 \\ 3 \overline{)915} \\ \underline{9} \\ 1 \end{array}$	$\begin{array}{r} 4 \\ 2 \overline{)806} \\ \underline{8} \\ 0 \end{array}$	$\begin{array}{r} \$ 5. \\ 4 \overline{)\$20.38} \\ \underline{20} \\ 3 \end{array}$
---	---	--

A

$$\begin{array}{r} 1 \\ 6 \overline{)636} \\ \underline{6} \\ 3 \end{array}$$

B

$$\begin{array}{r} 106 \\ 6 \overline{)636} \\ \underline{6} \\ 36 \\ \underline{36} \\ 0 \end{array}$$

Divide in rows 3, 4, and 5.

a

b

c

3. $8 \overline{)848}$

$2 \overline{)618}$

$3 \overline{)\$6.27}$

4. $5 \overline{)3,546}$

$4 \overline{)2,822}$

$6 \overline{)\$42.54}$

5. $9 \overline{)6,348}$

$7 \overline{)4,266}$

$9 \overline{)\$36.27}$

Weighing Things

A



B



C



D



In weighing things we use the units
ounce, pound, and ton (2,000 pounds).

1. A pencil weighs less than 1 -----

2. A big engine may weigh 400 -----

3. Look at scales A, B, C, and D.
Which scales would you use to weigh

meat? ----- ten sheets of paper? -----

a boy? ----- fruit for jelly? -----

16 ounces (oz.) = 1 pound (lb.)
2,000 lb. = 1 ton (T.)

1 lb. = 16 oz.
1 T. = 2,000 lb.

4. 1 T. = 2,000 lb., so 2 T. = _____ lb.

5. 4 T. = _____ lb.

6. 3 T. = _____ lb.

7. 1 lb. = 16 oz., so a brick weighing 2 lb. weighs _?_ oz.

Finish the work in the box.

16 oz.
$\times 2$
oz.

8. 5 lb. = _____ oz.

9. 1 lb. 4 oz. = _____ oz.

10. 1 lb. of chocolate will make

a. _____ pieces, each weighing 1 oz.

b. _____ pieces, each weighing 2 oz.

c. _____ pieces, each weighing 8 oz.

Practice in Division

Write just the answers for rows 1 and 2.

a b c d e f g h i

1. $8\overline{)48}$ $6\overline{)42}$ $7\overline{)35}$ $7\overline{)56}$ $9\overline{)36}$ $8\overline{)40}$ $6\overline{)54}$ $9\overline{)63}$ $8\overline{)56}$

2. $6\overline{)48}$ $7\overline{)63}$ $8\overline{)32}$ $6\overline{)24}$ $7\overline{)49}$ $9\overline{)45}$ $7\overline{)28}$ $9\overline{)54}$ $6\overline{)36}$

Divide. Write all your work.

a b c d e f

3. $2\overline{)615}$ $4\overline{)388}$ $5\overline{)535}$ $3\overline{)721}$ $6\overline{)1,224}$ $4\overline{)1,632}$

4. $7\overline{)3,283}$ $6\overline{)963}$ $5\overline{)4,048}$ $9\overline{)3,843}$ $6\overline{)2,900}$ $9\overline{)4,770}$

Finding n

On another sheet of paper, find the values of **n**. Write them in the box below.

- | | | | |
|----------------------|----------------------|--------------------|-----------------------|
| 1. $n \div 6 = 9$ | 4. $7 \times n = 14$ | 7. $74 - n = 52$ | 10. $n + 18 = 46$ |
| 2. $n + 7 = 12$ | 5. $15 = n + 8$ | 8. $80 = n + 52$ | 11. $40 = n \times 2$ |
| 3. $18 = n \times 2$ | 6. $32 \div n = 8$ | 9. $n \div 6 = 34$ | 12. $7 \times n = 91$ |

- | | | | |
|---------|---------|---------|----------|
| 1. | 4. | 7. | 10. |
| 2. | 5. | 8. | 11. |
| 3. | 6. | 9. | 12. |

The "Store on Wheels"



Draw a line under A. or S. or M. or D. to show what to do to solve each problem.

1. Three times a month the "Store on Wheels" comes to Betty and Bob's house. How many times a year is that?
A. S. M. D.

2. Yesterday the "Store on Wheels" stopped at 35 houses. Today it stopped at 29. How many more houses did the store visit yesterday? A. S. M. D.

3. The store truck uses a gallon of gasoline to go 9 miles. In 54 mi., how many gallons would it use? A. S. M. D.

4. Bob bought a knife for 49¢ and some candy for 15¢. How much money did he spend in all? A. S. M. D.

5. Mother bought 2 jars of peanut butter costing 46¢ each. How much did she pay for the 2 jars? A. S. M. D.

6. Betty paid \$3.75 for some cloth for a dress and 95¢ for a belt. The cloth cost how much more than the belt? A. S. M. D.

Now work the problems on another sheet of paper.
Write your answers here:

- | | | | | | |
|---------|---------|---------|---------|---------|---------|
| 1. | 2. | 3. | 4. | 5. | 6. |
|---------|---------|---------|---------|---------|---------|

When n Is a Minuend

A

$$\begin{array}{r} 61 \text{ minuend} \\ - 27 \text{ subtrahend} \\ \hline 34 \text{ remainder or difference} \end{array}$$

B

$$\begin{array}{r} 34 \\ + 27 \\ \hline 61 \end{array}$$

1. In box A, 61 has what name?

This means the number to be made less.

2. What is 27 called in box A?

This means the number to be subtracted.

3. Box B shows the check for Ex. A.

You add the -----

and the -----

Their sum should equal the minuend.

If you know both the remainder (or the difference) and the subtrahend, you can find the minuend by adding.

4. $n - 9 = 5$. The subtrahend is -----.

The remainder is -----. The minuend,

n , $= 5 + 9$, or -----.

5. $n - 57 = 28$. The subtrahend is -----.

The remainder is -----. To

find the minuend, n , you

----- the

remainder and the subtrahend.

Finish the work in box C. The minuend,

n , $=$ -----.

C

$$\begin{array}{r} 28 \\ + 57 \\ \hline \end{array}$$

On another sheet of paper, find the values of n in Ex. 6 to 23. Write them in the box below.

6. $n - 5 = 28$

10. $n - 10 = 17$

15. $n - 14 = 19$

20. $n - 20 = 40$

7. $n - 38 = 43$

11. $n - 5 = 69$

16. $n - 10 = 34$

21. $n - 32 = 46$

8. $n - 17 = 23$

12. $n - 36 = 8$

17. $n - 18 = 17$

22. $n - 46 = 24$

9. $n - 39 = 23$

13. $n - 42 = 37$

18. $n - 65 = 15$

23. $n - 49 = 62$

14. $n - 29 = 44$

19. $n - 30 = 42$

Write answers here.

6. ----- 9. ----- 12. ----- 15. ----- 18. ----- 21. -----

7. ----- 10. ----- 13. ----- 16. ----- 19. ----- 22. -----

8. ----- 11. ----- 14. ----- 17. ----- 20. ----- 23. -----

Practice in Finding n

On another sheet of paper, find the values of n for rows 1 to 5. Then write these values in the box at the right.

You have had all these kinds of examples.

a	b	c
1. $n - 215 = 87$	$n \div 6 = 109$	$5 \times n = 925$
2. $n = 7 \times 68$	$623 = 7 \times n$	$n - 256 = 74$
3. $n \div 8 = 174$	$758 = n + 249$	$n + 200 = 572$
4. $687 - n = 209$	$3 \times n = 825$	$n - 89 = 113$
5. $240 = n + 37$	$n = 6 \times 149$	$225 = 5 \times n$

a	b	c
1. -----	-----	-----
2. -----	-----	-----
3. -----	-----	-----
4. -----	-----	-----
5. -----	-----	-----

Time for Practice!

Do what the signs tell you to do. Work carefully.

a	b	c	d	e	f	g
1. $\begin{array}{r} 680 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 800 \\ - 754 \\ \hline \end{array}$	$\begin{array}{r} 194 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 406 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} \$0.86 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} \$9.53 \\ - 7.04 \\ \hline \end{array}$	$\begin{array}{r} \$12.18 \\ - 6.78 \\ \hline \end{array}$
2. $\begin{array}{r} 280 \\ + 908 \\ \hline \end{array}$	$\begin{array}{r} 753 \\ - 473 \\ \hline \end{array}$	$\begin{array}{r} 57 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 8,543 \\ - 2,578 \\ \hline \end{array}$	$\begin{array}{r} \$11.11 \\ - 2.65 \\ \hline \end{array}$	$\begin{array}{r} \$0.75 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} \$1.06 \\ \times 9 \\ \hline \end{array}$
3. $\begin{array}{r} 268 \\ 87 \\ 37 \\ + 88 \\ \hline \end{array}$	$\begin{array}{r} 8\text{¢} \\ 8\text{¢} \\ 7\text{¢} \\ + 0\text{¢} \\ \hline \end{array}$	$\begin{array}{r} 86 \\ 57 \\ 98 \\ + 60 \\ \hline \end{array}$	$\begin{array}{r} 497 \\ 865 \\ 342 \\ + 103 \\ \hline \end{array}$	$\begin{array}{r} 3,036 \\ 205 \\ + 5,869 \\ \hline \end{array}$	$\begin{array}{r} \$0.80 \\ 0.56 \\ 0.93 \\ + 0.69 \\ \hline \end{array}$	$\begin{array}{r} 4,027 \\ 2,056 \\ + 1,158 \\ \hline \end{array}$

4. $2\overline{)1,803}$ 5. $3\overline{)2,276}$ 6. $8\overline{)3,421}$ 7. $7\overline{)996}$ 8. $4\overline{)3,692}$

Can You Tell?

1. Copy a number from the box that is

$\begin{array}{r} 131 \\ 5 \overline{)655} \\ 28 72 \\ \times 7 - 35 \\ \hline 196 37 \end{array}$

a subtrahend -----;

a multiplicand -----;

a dividend -----;

a minuend -----.



For each of Ex. 2 to 4, first decide which square to use. Then do the work.

2. Darken $\frac{3}{6}$ of one square.

3. Darken $\frac{2}{10}$ of another square.

4. Darken $\frac{5}{8}$ of still another square.

Circle "Yes" or "No" for your answer.

5. Are there 18 ft. in 6 yd.? Yes No

6. In S. examples, are the subtrahends larger than the minuends? Yes No

7. Is 60 the table number for $66 \div 7$?
Yes No

8. Does an egg weigh a pound? Yes No

9. Can we find the quotient for $72 \div 9$ by subtracting 9's? Yes No

10. Can we multiply instead of adding in the example $52 + 67 + 15$? Yes No

11. Does $\frac{1}{4}$ hr. equal 15 min.? Yes No

12. Can $4 \overline{)20}$ mean $\frac{1}{4}$ of 20? Yes No

Chapter Test 5

Work these examples. Watch the signs!

1. $\begin{array}{r} 498 \\ \times 2 \\ \hline \end{array}$	2. $\begin{array}{r} 602 \\ \times 6 \\ \hline \end{array}$	3. $\begin{array}{r} 879 \\ + 827 \\ \hline \end{array}$	4. $\begin{array}{r} 5,016 \\ - 1,908 \\ \hline \end{array}$	5. $\begin{array}{r} \$0.54 \\ \times 7 \\ \hline \end{array}$	6. $\begin{array}{r} \$9.14 \\ - 7.08 \\ \hline \end{array}$
---	---	--	--	--	--

7. $\begin{array}{r} 634 \\ + 467 \\ \hline \end{array}$	8. $\begin{array}{r} 279 \\ \times 7 \\ \hline \end{array}$	9. $\begin{array}{r} 3,835 \\ + 1,706 \\ \hline \end{array}$	10. $\begin{array}{r} 1,323 \\ - 418 \\ \hline \end{array}$	11. $\begin{array}{r} 9,000 \\ - 1,413 \\ \hline \end{array}$	12. $\begin{array}{r} \$8.07 \\ \times 5 \\ \hline \end{array}$
--	---	--	---	---	---

13. $\begin{array}{r} 2 \overline{)1,614} \end{array}$	14. $\begin{array}{r} 7 \overline{)4,870} \end{array}$	15. $\begin{array}{r} 3 \overline{)2,045} \end{array}$	16. $\begin{array}{r} 5 \overline{)4,023} \end{array}$	17. $\begin{array}{r} 306 \\ 473 \\ 629 \\ + 715 \\ \hline \end{array}$
--	--	--	--	---



Measuring Temperature

1. We measure length with such things as rulers. Two units of linear measure are:

----- and -----

2. We use scales to weigh things. A unit we often use in weighing things is the -----

We measure temperature (how warm or how cold it is) with a thermometer like the one in the picture.

The unit of measure is called a degree. We use $^{\circ}$ to stand for "degrees."

This thermometer shows 80° . The liquid has gone up the tube as far as the number 80 and has stopped there.

3. Draw lines across the thermometer to show where the liquid would stop for a. 10° ; b. 60° ; c. 110° .

Water starts to freeze at 32° , so we call 32° "the freezing point."

4. Will water freeze at 12° ? -----
at 25° ? ----- at 60° ? -----

5. When the temperature is below freezing, is it colder than 32° ? -----

Water starts to boil at 212° , so we call this "the boiling point of water."

6. Will water boil at 150° ? -----
at 225° ? ----- at 289° ? -----

0° we call "zero." It is very cold then.

7. Where you live, does the temperature ever get as low as 0° ? -----

8. Would you want to go swimming when the thermometer shows 30° ? -----

9. In which month, January or June, might the temperature be 80° ? -----

10. In which month, February or July, might the temperature be 45° ? -----

11. What do you think the temperature might be in the snowman picture? -----
in the sailing picture? -----

Whole Stories with 8 in M. and D.

(1)

(2)

(3)

(4)

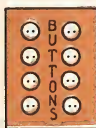
(5)

(6)

(7)

(8)

(9)



1. Count the buttons by 8's. Write the numbers under the cards of buttons.

2. On 3 cards there are _____ buttons.

a. The M. fact is _____.

b. The M. fact that goes with it is _____.

c. The two D. facts in the whole story

are _____ and _____.

3. 40 buttons take _____ cards.

a. The D. fact is _____.

b. The D. fact that goes with it is _____.

c. The two M. facts in the whole story

are _____ and _____.

4. On 8 cards there are _____ buttons.

a. The M. fact is _____.

b. Is there another M. fact?

c. The one D. fact in the whole story

is _____.

5. Write the four facts in the whole story about 4, 8, and 32.

M. _____

D. _____

6. 56 buttons take _____ cards. The four facts in this whole story are:

D. _____

M. _____

7. On 9 cards there are _____ buttons.

a. The two M. facts are:

b. The two D. facts are:

8. Write the four facts in the whole story in M. and D. about 6, 8, and 48.

M. _____

D. _____

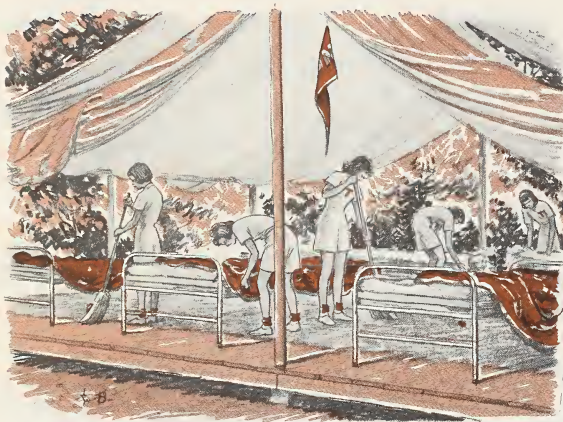
9. Write two D. facts about 2, 8, and 16.

10. Write two M. facts about 8, 9, and 72.

Camping Problems

After each problem write the M. fact.
Find products you do not know by adding.

1. Five girls can sleep in a tent, so
?_ girls can sleep in 8 tents.



2. Carol bought candy bars at 6¢ each
for 8 of her friends. They cost ?_¢.

3. Joan paid ?_¢ for eight 2¢ stamps.

4. Eight girls sat at a table. At 7 tables
there was room for ?_ girls.

5. A big can of tomato juice made 8
cups. In 9 cans there were ?_ cups.

6. A pound of meat served 4 campers.
8 lb. was enough for ?_ campers.

7. Eight girls made a team for a game.
For 8 teams, ?_ girls were needed.

8. Five groups of 8 girls went on bird
walks. ?_ girls went in all.

9. Sally planned to walk 3 mi. each day.
In 8 days that would be ?_ mi.

10. Finish the tables below. Learn all the facts.

Multiplication Facts for 8's

8	8	8	8	8	8	8	8	8
<u>× 1</u>	<u>× 2</u>	<u>× 3</u>	<u>× 4</u>	<u>× 5</u>	<u>× 6</u>	<u>× 7</u>	<u>× 8</u>	<u>× 9</u>

Multiplication Facts for 8

1	2	3	4	5	6	7	8	9
<u>× 8</u>	<u>× 8</u>	<u>× 8</u>	<u>× 8</u>	<u>× 8</u>	<u>× 8</u>	<u>× 8</u>	<u>× 8</u>	<u>× 8</u>

Problems with Extra Numbers

1. Jack earned \$2.25 last week and \$2.60 this week. He saved \$1.50. In the 2 weeks, how much did he earn?

To answer the question, you do not use the numbers \$1.50 and 2. Cross out these extra numbers.

Cross out extra numbers in Ex. 2 to 8.

2. In a parade there were 320 people. There were 18 rows of children, 8 to a row. In all, how many children were in the parade?

3. Our school has 512 pupils, and 246 of them are boys. The Field School has 89 more pupils. How many pupils are in the Field School?

4. Mary bought 8 presents of the same kind for \$3.60. She had \$4.75 when she went into the store. How much did she spend for each present?

5. A box held 144 pencils. Now it has 7 bundles of 12 pencils each. How many pencils are there in the box?

6. Jane had 49 paper dolls. She divided 28 of them equally among 4 girls. Each girl got how many dolls?

7. Our town had 5,689 people in 1940. In 1950 it had 6,750 people. Our town had how many fewer people in 1940 than it had in 1950?

8. Bob weighs 92 lb., Ed weighs 85 lb., and Frank weighs 111 lb. Frank weighs how many more pounds than Bob?

Find answers on another sheet of paper. Write the answers here.

1. ----- 2. ----- 3. ----- 4. -----

5. ----- 6. ----- 7. ----- 8. -----

The Signs Tell You What to Do

a	b	c	d	e	f	g	h
1. $\begin{array}{r} 497 \\ \times 2 \end{array}$	$\begin{array}{r} 1,411 \\ - 589 \end{array}$	$\begin{array}{r} 98 \\ \times 6 \end{array}$	$\begin{array}{r} 3,688 \\ + 2,999 \end{array}$	$\begin{array}{r} 197 \\ \times 4 \end{array}$	$\begin{array}{r} 9,819 \\ - 1,637 \end{array}$	$\begin{array}{r} 832 \\ - 275 \end{array}$	$\begin{array}{r} \$0.89 \\ \times 8 \end{array}$

2. $\begin{array}{r} 600 \\ - 407 \end{array}$	$\begin{array}{r} 453 \\ + 947 \end{array}$	$\begin{array}{r} 68 \\ \times 5 \end{array}$	$\begin{array}{r} 896 \\ - 792 \end{array}$	$\begin{array}{r} 87 \\ \times 9 \end{array}$	$\begin{array}{r} 908 \\ \times 3 \end{array}$	$\begin{array}{r} 698 \\ + 240 \end{array}$	$\begin{array}{r} \$5.12 \\ - 3.95 \end{array}$
--	---	---	---	---	--	---	---

3. $8\overline{)610}$

4. $4\overline{)835}$

5. $9\overline{)637}$

6. $2\overline{)1,941}$

7. $6\overline{)5,450}$

A Page of Multiplication

Practice on M. Facts

Write just the products.

	a	b	c	d	e	f	g	h	i	j
1.	$\begin{array}{r} 8 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$
2.	$\begin{array}{r} 9 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$
3.	$\begin{array}{r} 8 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 2 \\ \hline \end{array}$

Practice for Carrying

For Ex. 1a, *think*, "Four 9's are 36, and 3 are 39." Write "39."

	a	b	c	d
1.	$4 \times 9 + 3 = \text{-----}$	$8 \times 9 + 5 = \text{-----}$	$8 \times 4 + 6 = \text{-----}$	$9 \times 8 + 6 = \text{-----}$
2.	$8 \times 7 + 2 = \text{-----}$	$6 \times 7 + 4 = \text{-----}$	$6 \times 8 + 5 = \text{-----}$	$7 \times 7 + 4 = \text{-----}$
3.	$4 \times 8 + 3 = \text{-----}$	$8 \times 8 + 6 = \text{-----}$	$7 \times 6 + 5 = \text{-----}$	$5 \times 9 + 3 = \text{-----}$
4.	$7 \times 9 + 5 = \text{-----}$	$6 \times 9 + 5 = \text{-----}$	$8 \times 5 + 6 = \text{-----}$	$7 \times 8 + 4 = \text{-----}$
5.	$5 \times 8 + 4 = \text{-----}$	$8 \times 6 + 4 = \text{-----}$	$9 \times 7 + 2 = \text{-----}$	$9 \times 6 + 6 = \text{-----}$

Practice on M. Examples

Write the products.

	a	b	c	d	e	f	g	h
1.	$\begin{array}{r} 98 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 86 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 140 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 107 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} \$ 0.98 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} \$ 1.19 \\ \times 8 \\ \hline \end{array}$
2.	$\begin{array}{r} 89 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 52 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 198 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 106 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} \$ 1.23 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} \$ 1.37 \\ \times 6 \\ \hline \end{array}$

Easy Division Problems

After each problem, write the division fact. Find quotients you do not know by subtracting.



1. It takes 8 feet of string to tie up a big package. Forty feet will tie up how many such packages?

2. To mail a small package costs 7¢. For 56¢ you can mail how many of these packages?

3. Oranges cost 5¢ each. For 40¢ you can buy how many oranges?

4. If you put 8 roses in a bunch, 56 roses will make how many bunches?

5. From 72 toy ducks you can make how many sets of 9 ducks each?

6. If you paste 6 bells in a row, 48 bells will make how many rows?

7. 8 glass jars fill a box. For 64 jars you need how many boxes?

8. Jack's shoe is 8 in. long. To measure 72 in., he would have to lay the shoe along a line how many times?

9. Finish the tables below. Be sure that all your answers are correct. Then study the facts until you know them all.

Division Facts, Divisor 8

$8 \overline{)8}$	$8 \overline{)16}$	$8 \overline{)24}$	$8 \overline{)32}$	$8 \overline{)40}$	$8 \overline{)48}$	$8 \overline{)56}$	$8 \overline{)64}$	$8 \overline{)72}$
-------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------

Division Facts, Quotient 8

$1 \overline{)8}$	$2 \overline{)16}$	$3 \overline{)24}$	$4 \overline{)32}$	$5 \overline{)40}$	$6 \overline{)48}$	$7 \overline{)56}$	$8 \overline{)64}$	$9 \overline{)72}$
-------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------

Practice on Division Facts

a	b	c	d	e	f	g
1. $5\overline{)40}$	$7\overline{)35}$	$6\overline{)54}$	$8\overline{)72}$	$7\overline{)28}$	$\frac{1}{9}$ of 63 = ----	$\frac{1}{8}$ of 40 = ----
2. $9\overline{)45}$	$8\overline{)48}$	$5\overline{)35}$	$4\overline{)32}$	$9\overline{)36}$	$\frac{1}{3}$ of 27 = ----	$\frac{1}{7}$ of 56 = ----
3. $9\overline{)72}$	$6\overline{)42}$	$7\overline{)63}$	$8\overline{)24}$	$5\overline{)45}$	$\frac{1}{8}$ of 64 = ----	$\frac{1}{7}$ of 21 = ----
4. $2\overline{)16}$	$7\overline{)42}$	$8\overline{)56}$	$9\overline{)54}$	$6\overline{)48}$	$\frac{1}{8}$ of 16 = ----	$\frac{1}{4}$ of 28 = ----
5. $3\overline{)24}$	$8\overline{)32}$	$7\overline{)49}$	$4\overline{)36}$	$9\overline{)27}$	$\frac{1}{6}$ of 36 = ----	$\frac{1}{9}$ of 72 = ----

More Uneven Division

1. 8 has two new table numbers.
 - a. Use 64 for the numbers ----- to 71.
 - b. Use 72 for the numbers ----- to 79.

2. In dividing by 8, the table number

- a. for 50 is ----- e. for 60 is -----
- b. for 68 is ----- f. for 39 is -----
- c. for 57 is ----- g. for 53 is -----
- d. for 44 is ----- h. for 75 is -----

3. 9 has a new table number, 72. Use it for the numbers ----- to 80.

4. In dividing by 9, the table number

- a. for 49 is ----- d. for 58 is -----
- b. for 76 is ----- e. for 67 is -----
- c. for 40 is ----- f. for 55 is -----

Write the work for rows 5 to 8.

a	b	c	d
5. $7\overline{)38}$	$8\overline{)43}$	$6\overline{)40}$	$5\overline{)41}$
6. $7\overline{)58}$	$8\overline{)78}$	$9\overline{)50}$	$8\overline{)37}$
7. $6\overline{)45}$	$4\overline{)35}$	$9\overline{)57}$	$3\overline{)26}$
8. $8\overline{)65}$	$9\overline{)40}$	$9\overline{)75}$	$8\overline{)69}$

Time for Practice!

Watch the signs. To check, do the work again.

1. 109	2. 783	3. 938	4. $4,543$	5. 346	6. 821	7. 489
$\times 8$	$\times 4$	$- 329$	$- 3,894$	$\times 8$	$- 349$	$\times 7$

8. 28	9. 452	10. $\$ 0.87$	11. $\$ 3.65$	12. 807	13. 79	14. 607
19	890	$\times 9$	0.47	488	0	$\times 8$
$+ 37$	$+ 787$		$+ 9.86$	$+ 925$	56	
					$+ 8$	

15. $6\overline{)845}$	16. $5\overline{)4,542}$	17. $9\overline{)\$ 7.97}$	18. $8\overline{)\$ 6.98}$
------------------------	--------------------------	----------------------------	----------------------------

19. $7\overline{)628}$	20. $8\overline{)5,207}$	21. $8\overline{)972}$	22. $8\overline{)3,994}$
------------------------	--------------------------	------------------------	--------------------------

Remembering How

Circle the best estimate given after each example.

1. $49 + 38 = ?$	60 90 30
2. $72 - 29 = ?$	40 20 30
3. $31 + 51 = ?$	60 90 80
4. $88 - 27 = ?$	60 50 70
5. $33 + 48 = ?$	80 90 60
6. $91 - 32 = ?$	50 60 80

Think and write the values of n .

a	b
7. $n + 8 = 16$	$49 = n \times 7$
8. $27 - n = 8$	$35 \div n = 7$
9. $n = 8 \times 9$	$n = 38 - 8$
10. $n \div 7 = 8$	$n \times 6 = 42$
11. $64 \div n = 8$	$n + 9 = 17$
12. $72 \div n = 9$	$9 \times n = 36$

Remembering about Measures

Draw a line under the number or word that makes each sentence correct.

1. The temperature on a June day might be about (0° , 32° , 80° , 140°).

2. A man wears about 6 (ounces, pounds, tons) of clothes.

3. From 10 A.M. to 10 P.M., the minute hand goes around the clock (1, 12, 24) times.

4. A large cat may be as long as 2 (inches, feet, yards).

5. Marjorie's new baby brother weighs 8 (ounces, pounds).

6. The boiling point of water is (0° , 32° , 100° , 212°).

7. We measure gasoline in (ounces, gallons, yards).

8. A railroad engine may be as long as (10, 25, 90) feet.

9. Joe's father weighs about 150 (ounces, pounds, tons).

10. A rope 9 yards long is also (3, 18, 27) feet long.

11. A box of fruit weighing 4 pounds also weighs (4, 8, 64) ounces.

12. In 6 weeks there are (35, 42, 49) days.

13. A truckload of corn might weigh 6,000 (ounces, pounds, tons).

14. 5 feet = (45, 60, 90) inches.

Do You Know These Things about Fractions?

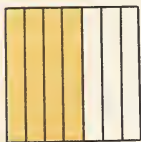
1. We know that Sue has colored $\frac{3}{4}$



of her flower, because the flower has ---- parts; the parts are ----- in size;

and she has colored ---- parts.

2. The fraction that tells how much



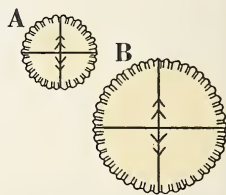
of the square is yellow has ---- for its numerator; and

---- for its denominator.

The fraction that tells how much of the square is white is -----.

3. Both pies have been cut into fourths.

a. Are the fourths in pie A equal in size to the fourths in pie B?



b. Are fourths of all kinds of things equal to each other?

4. Is $\frac{1}{2}$ of a cherry the same size as $\frac{1}{2}$

of a grapefruit? -----

as $\frac{1}{2}$ of a blueberry? -----

5. $\frac{1}{6}$ of one thing is equal to $\frac{1}{6}$ of another

only when the wholes are -----.

Equal Wholes and Fractions



1. The orange is divided into thirds.

a. 1 orange = thirds, or $\frac{\quad}{3}$.

b. One whole thing = $\frac{3}{3}$. c. 1 = $\frac{\quad}{3}$.

2. The loaf of brown bread above is cut

into

a. 1 loaf of bread = 4

b. One whole thing = $\frac{\quad}{4}$. c. 1 = $\frac{\quad}{4}$.

Finish Ex. 3 to 7.

3. A whole thing has sixths.

$$1 = \frac{\quad}{6}$$

4. A whole thing has eighths.

$$1 = \frac{\quad}{8}$$

5. $1 = \frac{\quad}{10}$ 6. $1 = \frac{\quad}{5}$ 7. $1 = \frac{\quad}{7}$

8. Each apple above is cut into thirds.

a. 1 apple = $\frac{\quad}{3}$ b. 2 apples = $\frac{\quad}{3}$

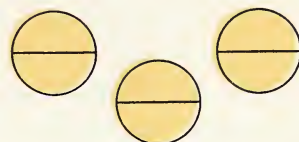
$$c. 2 = \frac{\quad}{3}$$

9. Each square is divided into sixths.

a. 1 square = $\frac{\quad}{6}$ b. 2 squares = $\frac{\quad}{6}$

$$c. 2 = \frac{\quad}{6}$$

10. Each circle is divided into halves.



a. 1 circle = $\frac{\quad}{2}$

b. 3 circles = $\frac{\quad}{2}$ c. 3 = $\frac{\quad}{2}$

11. Each cooky is divided into fourths.

a. 1 cooky = $\frac{\quad}{4}$



b. 4 cookies = $\frac{\quad}{4}$ c. 4 = $\frac{\quad}{4}$

Practice in Division

a

b

c

d

e

$$8 \overline{)2,450}$$

$$4 \overline{)756}$$

$$3 \overline{)2,938}$$

$$9 \overline{)2,565}$$

$$7 \overline{)5,873}$$

Check Ex. a

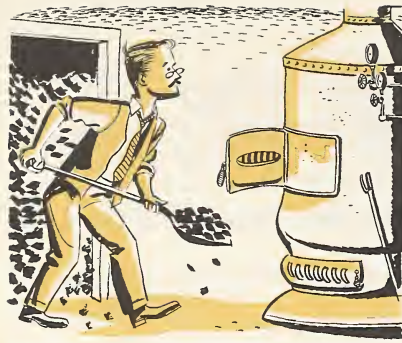
Quotients of Four Figures

1. Mr. Lee had 6,000 lb. of coal. He has used $\frac{1}{3}$ of it. How many pounds is that? $\frac{1}{3}$ of 6,000 = ?

6 thousands $\div 3 = 2$ thousands, or

You divide thousands as you divide ones.

Ex. 2 shows how to write the quotient for Ex. 1. Write quotients for Ex. 3 to 7.



A

Thousands	Hundreds	Tens	Ones
3, 6	4	0	R1
$2 \overline{) 7,281}$			
6			
1	2		
1	2		
		8	
		8	
			1

B

$$\begin{array}{r}
 \$ 26. \\
 3 \overline{) \$ 79.50} \\
 \underline{6} \\
 19 \\
 \underline{18} \\
 15
 \end{array}$$

2. $\frac{2,000}{3 \overline{) 6,000}}$ 3. $\frac{4 \overline{) 8,000}}$ 4. $\frac{2 \overline{) 6,000}}$

5. $\frac{2 \overline{) 4,000}}$ 6. $\frac{3 \overline{) 9,000}}$ 7. $\frac{2 \overline{) 8,000}}$

8. $7,281 \div 2 = ?$ Look at the work in box A.

Divide thousands: For $7 \div 2$, *think*, "3." Write in place in the quotient.

Multiply: $3 \times 2 = \dots\dots\dots$ Subtract: $7 - 6 = \dots\dots\dots$

Bring down the 2 hundreds.

Divide hundreds: For $12 \div 2$, *think*, Write "6" in hundred's place in the quotient. Multiply and subtract. Then bring down the 8 tens.

Divide tens and ones as you always do.

Finish box B. Then work rows 9 and 10.

a

b

c

d

e

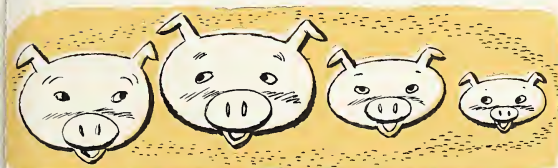
f

9. $\frac{2 \overline{) 8,486}}$ 3. $\frac{3 \overline{) 6,588}}$ 4. $\frac{4 \overline{) 8,536}}$ 8. $\frac{8 \overline{) 9,675}}$ 5. $\frac{5 \overline{) \$ 76.60}}$ 4. $\frac{4 \overline{) \$ 40.94}}$

10. $4\overline{)7,946}$ $6\overline{)8,592}$ $7\overline{)9,665}$ $2\overline{)7,969}$ $9\overline{)\$97.59}$ $3\overline{)\$89.47}$

A., S., M., or D.—Which?

Circle A., S., M., or D. to show which process you would use to solve each problem. Do not solve yet.



478 lb.

516 lb.

347 lb.

208 lb.

1. The picture tells how many pounds each pig weighs. How many pounds do all four pigs weigh? A. S. M. D.

2. Mr. Strong has 510 fruit trees. $\frac{1}{5}$ of them are pear trees. How many pear trees are there? A. S. M. D.

3. John is in school about 124 hr. each school month. If he misses no time, how many hours is he in school in 9 months? A. S. M. D.

4. In March, Mr. Lee drove his car a total of 2,009 mi. In April he drove it 1,857 mi. How many miles more did he drive in March than in April?

A. S. M. D.

5. Joe tied together 5 equal pieces of string to make a kite string 575 ft. long. How many feet long was each of the 5 pieces of string? A. S. M. D.

6. At a church supper, 2 spoons were put at each of 315 places. How many spoons were needed? A. S. M. D.

7. The 315 people at the church supper sat at tables for 9 persons. How many tables did they fill? A. S. M. D.

Now work the problems on another sheet of paper. Write the answers here:

1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____

Estimating Products

You know how to estimate sums and remainders or differences. You can also estimate products.

1. $5 \times 42 = ?$ Think of 42 as 4 tens.

Then 5×4 tens = 20 tens, or -----

2. $6 \times 79 = ?$ Think of 79 as ----

tens. $6 \times$ ---- tens = ---- tens, or -----

Write estimates in rows 3 to 7.

a

b

3. 5×61 ----- 2×78 -----

4. 4×29 ----- 7×42 -----

5. 7×71 ----- 9×27 -----

6. 8×33 ----- 6×52 -----

7. 3×89 ----- 8×48 -----

8. Can you buy four 59¢ games for \$2.50?

Estimate: 59 is almost 6 tens. 4×6 tens are 24 tens, or 240 (240¢, or \$2.40).

Will \$2.50 be enough? -----

In Ex. 9 to 16, first write an estimated product for each multiplication. Then circle either your answer or the number given first in the example, whichever is larger.

9. 580 or 9×67

630

10. 650 or 7×89 -----

11. 220 or 3×81 -----

12. 300 or 7×68 -----

13. 170 or 5×42 -----

14. 260 or 6×53 -----

15. 430 or 8×49 -----

16. 390 or 6×71 -----

17. On another sheet of paper, find the real products for Ex. 3a, 3b, 4a, and 4b. Write the products here:

3a. ----- 3b. ----- 4a. ----- 4b. -----

Were your estimates about right?

Estimating Answers in Problems

Draw a line under the best estimate in the () in each problem.

1. If you can read 83 words in a minute, in 8 minutes you can read about (640, 700, 720) words.

2. Clock A sells for \$2.98 and clock B sells for \$3.62. Clock A sells for about (90¢, 60¢, 80¢) less than clock B.

3. A rope 77 feet long was tied to a rope 62 feet long. Together the two ropes reached about (200, 180, 140) feet.

4. Ann spent 48¢ for each of 5 books, or about (\$1.50, \$2.00, \$2.50) in all.

5. Dick can find only 71 of his 99 marbles. He has lost about (30, 50, 60) of his marbles.

0's Side by Side in the Quotient

1. $9,027 \div 3 = ?$ Study the work below.

Thousands: $9 \div 3 = \dots\dots\dots$. Write "3"

in thousand's place in the quotient. Multiply and subtract; then bring down the 0 hundreds.

Hundreds: $0 \div 3 = 0$.

Write $\dots\dots$ in hundred's

place in the quotient and

then bring down the $\dots\dots\dots$ tens.

Tens: For $2 \div 3$, *think* "0" and write

"0" in $\dots\dots\dots$ place in the quotient.

Bring down the 7 $\dots\dots\dots$

Ones: $\dots\dots \div 3 = \dots\dots$. Multiply and

subtract. Is there a remainder? $\dots\dots\dots$

Work the examples in rows 2 and 3.

2. $9 \overline{)9,054}$ $2 \overline{)8,017}$ $6 \overline{)6,042}$

3. $5 \overline{)7,003}$ $4 \overline{)9,203}$ $7 \overline{)8,400}$

Work the examples in rows 4 to 7. Be careful! Some quotients have no 0's; some have one 0; some have two.

a

b

c

4. $2 \overline{)1,801}$

$5 \overline{)4,504}$

$9 \overline{)7,206}$

5. $5 \overline{)6,570}$

$4 \overline{)3,925}$

$6 \overline{)7,205}$

6. $8 \overline{)8,049}$

$2 \overline{)8,161}$

$7 \overline{)9,809}$

7. $8 \overline{)6,823}$

$3 \overline{)6,027}$

$3 \overline{)9,022}$

Thousands	Hundreds	Tens	Ones
3,	0	0	9
3	9,	0	2
9			7
	0	2	7
		2	7

Time for Practice!

Do what the signs tell you to do. Work carefully!

	a	b	c
1.	836 <u>× 8</u>	7,059 <u>− 6,753</u>	809 <u>× 7</u>
2.	1,746 <u>− 977</u>	468 <u>× 6</u>	579 <u>× 8</u>

3. $6 \overline{)5,605}$ $7 \overline{)5,629}$ $9 \overline{)6,786}$

	a	b	c
4.	346 2,427 <u>+ 4,070</u>	85 58 97 <u>+ 79</u>	249 370 <u>+ 87</u>

5. $5 \overline{)9,754}$ $6 \overline{)8,405}$ $8 \overline{)9,999}$

Liquid Measures and Dry Measures

1. Learn this table of liquid measures:

2 measuring cups (c.) = 1 pint (pt.)

2 pt. = 1 quart (qt.)

4 qt. = 1 gallon (gal.)

2. Learn this table of dry measures:

2 pints (pt.) = 1 quart (qt.)

8 qt. = 1 peck (pk.)

4 pk. = 1 bushel (bu.)

3. Write "dry" or "liquid" after each thing to show which kind of measure you would use for it.

vinegar ----- potatoes -----

corn ----- ice cream -----

juice ----- cherries -----

4. Draw a line under the word in the () that makes each sentence correct.

a. If you change apples from bushel baskets to peck baskets, you will need (more, fewer) baskets.

b. If you change cherries from pint baskets to quart baskets, you will need (more, fewer) baskets.

c. If you pour milk from gallon cans into quart bottles, you will need (more, fewer) containers.

When you change from larger to smaller containers, you need more containers.

When you change from smaller to larger containers, you need fewer containers.

Changing to Other Units of Measure

Liquid Measure

Write the missing numbers.

- 1 qt. = 2 pt., so 2 qt. = pt.
- 3 qt. = pt.
- 8 qt. = pt.
- 1 qt. = 4 c., so 2 qt. = c.
- 9 qt. = c.
- 1 gal. = 4 qt., so 2 gal. = qt.
- 5 gal. = qt.
- $\frac{1}{2}$ gal. = $\frac{1}{2}$ of 4 qt., or qt.

Finish Ex. 10 to 13 like Ex. 9.

- 3 pt. = / qt. and / pt.
- 5 pt. = qt. and pt.
- 9 pt. = qt. and pt.
- 5 qt. = / gal. and qt.
- 14 qt. = gal. and qt.

Draw a line under "more" or "fewer" in each of Ex. 14 to 16, whichever makes the sentence correct.

14. To change liquids from gallon jugs to pint bottles takes (more, fewer) containers.

15. To change liquids from cups to quart containers takes (more, fewer) containers.

16. To change liquids from quart containers to gallon containers takes (more, fewer) containers.

Dry Measure

Write the missing numbers.

- 1 pk. = 8 qt., so 2 pk. = qt.
- 9 pk. = qt.
- $\frac{1}{2}$ pk. = qt.
- 1 bu. = 4 pk., so 2 bu. = pk.
- 6 bu. = pk.
- 8 bu. = pk.
- 1 qt. = 2 pt.
- 9 qt. = pt.

Finish Ex. 10 to 16 like Ex. 9.

- 7 pt. = 3 qt. and / pt.
- 15 qt. = pk. and qt.
- 11 qt. = pk. and qt.
- 16 qt. = pk.
- 6 pk. = bu. and pk.
- 10 pk. = bu. and pk.
- 23 pk. = bu. and pk.
- 27 pk. = bu. and pk.

Draw a line under "more" or "fewer" to make each sentence correct.

17. To change dry things from peck to bushel containers, you need (more, fewer) containers.

18. To change dry things from peck to quart containers, you need (more, fewer) containers.

Can You Tell?

Write the answers for Ex. 1 to 7.

1. How many apples must you divide into fourths in order to have $\frac{8}{4}$? -----

2. Would you need 8 bushel containers for 2 pk. of corn? -----

3. How many figures has the quotient for the example $7 \overline{)2,809}$? -----

4. What table number should be used in the example $77 \div 9$? -----

5. To get $\frac{4}{9}$ of a thing, into how many equal parts must it be divided? -----

6. The numerator of $\frac{5}{7}$ is what? -----

7. 8 gal. equals how many quarts? -----

Draw a line under the words or numbers that make the sentences correct.

8. 6×82 is about (480, 540, 600).

9. In the example $155 \div 5 = 31$, 155 is the (dividend, quotient, product).

10. "Forty degrees" is written (40c, @ 40, 40°).

11. $\frac{1}{9}$ of 72 = (7, 8, 9).

12. The 5 in $\frac{5}{8}$ tells that there are (8, 5, 13) equal parts in the fraction.

13. To find n in $n \div 6 = 36$ (add 6 to 36, divide 36 by 6, multiply 36 by 6).

14. For ribbon, we use (linear, dry, liquid) measure.

15. Cups are units used only in (dry, linear, liquid) measure.

16. 3 wholes = (3, 9, 15) fifths.

Chapter Test 6

Do what the signs tell you to do. Work carefully!

a	b	c	d	e	f
1. 908	$5,025$	878	$\$6.78$	$\$13.53$	$\$3.87$
$\times 7$	$-2,718$	$+1,726$	$\times 8$	-9.48	$\times 9$

2. $6 \overline{)4,804}$	$7 \overline{)5,040}$	$4 \overline{)3,905}$	$8 \overline{)8,066}$	$6 \overline{)\$61.56}$	$3 \overline{)\$28.12}$
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Choosing the Process in Problem-Solving

Circle A., S., M., or D. to show the process to use to solve each problem.

1. Mrs. Allen takes 7 dozen eggs to the store each week. How many dozen would she take in 8 weeks? A. S. M. D.

2. Last week, Mrs. Allen made \$11.52. She made $\frac{1}{4}$ of the \$11.52 by selling baby chicks. How much did she make from the chicks? A. S. M. D.

3. Mrs. Allen spent \$8.75 of the \$11.52 for chick feed. Then she had how much money left? A. S. M. D.

4. Besides the \$8.75, Mrs. Allen spent \$7.95 another time for chick feed, and \$12.40 still another time. In all, she spent how much for chick feed? A. S. M. D.

5. One way Mrs. Allen sells chicks is in boxes holding 9 each. For 72 chicks she would need how many of these boxes? A. S. M. D.

6. One week Mrs. Allen made \$19.58 from her chickens. The next week she made \$7.80. How much more did she make the first week? A. S. M. D.

7. Mr. Allen got \$12.64 at the fruit store for 8 boxes of pears. That was how much for a box? A. S. M. D.

8. At the same time, he sold \$23.75 worth of apples. He got how much less for the pears (Ex. 7) than for the apples?

A. S. M. D.

9. Mr. Allen's son Tom picked the apples. Mr. Allen paid him $\frac{1}{5}$ of the \$23.75. How much did Tom get?

A. S. M. D.

10. The man at the store sold the apples by the peck. The 19 bushels he bought from Mr. Allen made how many pecks?

A. S. M. D.

11. Tom got \$3.75 for picking pears. He put this with \$18.69 that he had saved. Then he had how much?

A. S. M. D.

12. Tom puts 16 quart boxes of berries in each big box. How many quarts can he put in 7 big boxes? A. S. M. D.

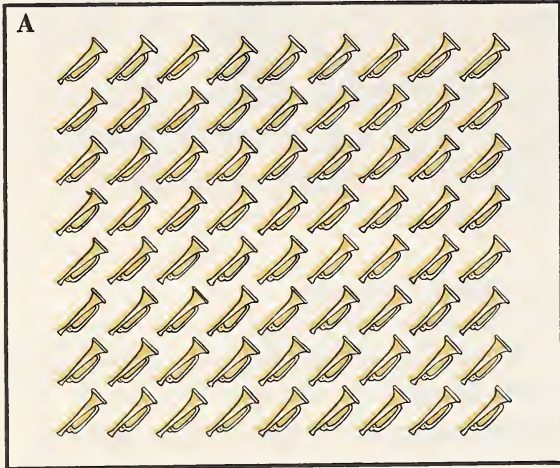
Solve the problems on another sheet of paper. Write the answers here.

1. ----- 2. ----- 3. -----

4. ----- 5. ----- 6. -----

7. ----- 8. ----- 9. -----

10. ----- 11. ----- 12. -----



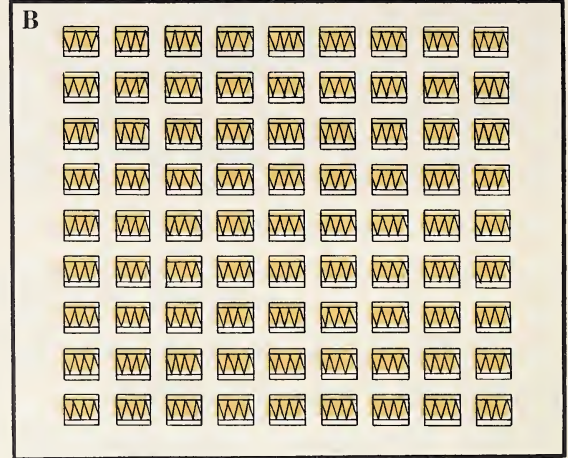
1. Picture A shows 72 toy horns in 8 rows of 9 each. Write the whole story in M. and D.

M.

D.

2. Picture B shows 81 toy drums in 9 rows of 9 each. The whole story has only two parts. Write them.

M. D.



3. You can subtract nine 9's from 81. The D. fact for the example is

.....

4. If you add nine 9's, the sum is 81. The M. fact for the example is

.....

5. Ex. 3 and 4 tell the whole story in

M. and D. about ..., ..., and

6. Finish the whole stories in Ex. a to i below by writing the missing numbers or facts.

a. $1 \times 9 = \dots$

$9 \times \dots = 9$

$9 \div 1 = \dots$

$9 \div 9 = \dots$

b. $2 \times 9 = \dots$

$9 \times \dots = \dots$

$18 \div 2 = \dots$

$18 \div \dots = \dots$

c. $3 \times \dots = 27$

$9 \times \dots = \dots$

$27 \div 3 = \dots$

$27 \div \dots = \dots$

d.

$9 \times 4 = \dots$

$36 \div 4 = \dots$

.....

e. $5 \times 9 = \dots$

.....

$\dots \div 5 = 9$

.....

f. $6 \times \dots = 54$

$9 \times \dots = \dots$

$54 \div \dots = \dots$

$54 \div \dots = \dots$

g. $\dots \times 9 = 63$

.....

$63 \div \dots = \dots$

.....

h. $8 \times 9 = \dots$

.....

$72 \div 8 = \dots$

.....

i. $\dots \times 9 = 81$

$81 \div 9 = \dots$

M. Problems and Facts with 9

Write the products. Find those you do not know by adding.

1. Nine 9¢ tablets will cost -----¢.

2. If one jump equals 3 steps, 9 jumps equal ----- steps.

3. For 9 pieces of ribbon, each 7 in. long, you will need ----- inches in all.

4. There are 4 quarts in a gallon, so there are ----- quarts in 9 gallons.

5. For 6 baseball teams of 9 players each, ----- players are needed.

6. In 9 bundles of 8 sticks there is a total of ----- sticks.

7. If there are 9 examples in a row, there are ----- examples in 7 rows.

8. Five bricks each 9 in. long reach ----- in. if you lay them end to end.

9. A half dozen = 6. In 9 half dozens there are -----.

10. There are 9 letters in "remainder." If you write the word 9 times, you write ----- letters.

11. Eight pans hold ----- rolls if each pan holds 9 rolls.

12. Finish the tables below.

Multiplication Facts for 9's

9	9	9	9	9	9	9	9	9
$\times 1$	$\times 2$	$\times 3$	$\times 4$	$\times 5$	$\times 6$	$\times 7$	$\times 8$	$\times 9$

Multiplication Facts for 9

1	2	3	4	5	6	7	8	9
$\times 9$	$\times 9$	$\times 9$	$\times 9$	$\times 9$	$\times 9$	$\times 9$	$\times 9$	$\times 9$

13. Circle the new facts in the tables.

14. Study the facts until you know them all.

Practice in Multiplication

	a	b	c	d	e	f	g	h	i	j
1.	9	3	4	7	6	4	9	7	5	8
	$\times 5$	$\times 9$	$\times 7$	$\times 8$	$\times 9$	$\times 8$	$\times 3$	$\times 7$	$\times 9$	$\times 6$

2.	8	7	8	9	8	9	6	9	6	9
	$\times 9$	$\times 6$	$\times 7$	$\times 6$	$\times 5$	$\times 2$	$\times 8$	$\times 9$	$\times 7$	$\times 4$

3.	2	9	5	7	8	5	4	8	9	5
	$\times 9$	$\times 8$	$\times 6$	$\times 9$	$\times 8$	$\times 7$	$\times 9$	$\times 4$	$\times 7$	$\times 8$

	a	b	c	d	e	f	g
4.	589	295	798	909	\$ 6.98	\$ 8.90	\$ 4.07
	$\times 3$	$\times 9$	$\times 4$	$\times 8$	$\times 7$	$\times 6$	$\times 9$

Time for Practice!

Add, subtract, multiply, or divide as the signs tell you.

	a	b	c	d
1.	809	1,785	792	987
	$\times 2$	$- 876$	$\times 9$	$- 794$

2.	318	4,692	\$ 0.58	856
	47	758	0.79	797
	68	$+ 2,079$	0.36	$+ 909$
	$+ 39$		$+ 2.17$	

3.	179	5,243	2,053	836
	$\times 5$	$- 2,149$	$- 704$	$+ 963$

4.	900	7,489	578	852
	$- 83$	$- 2,192$	$\times 8$	$- 527$

5.	917	8,005	486	365
	$\times 6$	$- 3,499$	$\times 9$	$+ 598$

	a	b	c
6.	$6 \overline{) 5,340}$	$8 \overline{) 4,875}$	$9 \overline{) 6,348}$

7.	$3 \overline{) 2,959}$	$9 \overline{) 7,769}$	$4 \overline{) 9,237}$
----	------------------------	------------------------	------------------------

Division Facts with 9

Write the quotients. Find those you do not know by subtracting.

1. How many of these paper flowers can you buy with 54¢?



2. If each flower cost 6¢, how many could you buy with 54¢?

3. To get 45 of these pins, how many cards of them would you have to buy?



4. To get 81 pins, how many cards would you have to buy?

5. How many weeks are there in 63 days?

6. You can subtract 9's from 27.

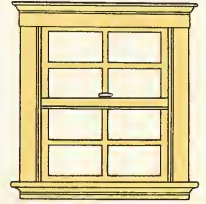
7. To show 45 fingers, how many girls would each have to hold up a hand?



8. John puts 9 onions in each bunch. With 81 onions he can make how many bunches?

9. How many piles of 9 books each can you make with 63 books?

10. 72 pieces of glass are enough to make how many windows like this?



11. 36 quarts of ice cream are equal to how many gallons?

12. $n \times 9 = 72$. $n =$

13. $3 \times n = 27$. $n =$

14. Finish the tables below. Work carefully and be sure your quotients are correct. Then learn all the facts.

Division Facts, Divisor 9

$9 \overline{)9}$ $9 \overline{)18}$ $9 \overline{)27}$ $9 \overline{)36}$ $9 \overline{)45}$ $9 \overline{)54}$ $9 \overline{)63}$ $9 \overline{)72}$ $9 \overline{)81}$

Division Facts, Quotient 9

$1 \overline{)9}$ $2 \overline{)18}$ $3 \overline{)27}$ $4 \overline{)36}$ $5 \overline{)45}$ $6 \overline{)54}$ $7 \overline{)63}$ $8 \overline{)72}$ $9 \overline{)81}$

15. Circle the new facts in the tables.

Practice in Division

a	b	c	d	e	f	g	h	i
1. $4\overline{)36}$	$9\overline{)45}$	$6\overline{)48}$	$3\overline{)27}$	$8\overline{)56}$	$9\overline{)18}$	$7\overline{)49}$	$9\overline{)54}$	$5\overline{)40}$
2. $9\overline{)81}$	$4\overline{)32}$	$7\overline{)63}$	$5\overline{)35}$	$9\overline{)36}$	$6\overline{)30}$	$9\overline{)72}$	$8\overline{)48}$	$6\overline{)54}$
3. $2\overline{)18}$	$7\overline{)42}$	$8\overline{)72}$	$9\overline{)63}$	$8\overline{)64}$	$5\overline{)45}$	$7\overline{)35}$	$9\overline{)27}$	$7\overline{)56}$

a	b	c	d	e	f	g
4. $2\overline{)1,882}$	$9\overline{)6,354}$	$6\overline{)6,054}$	$8\overline{)6,352}$	$9\overline{)5,283}$	$7\overline{)8,407}$	$9\overline{)4,410}$

Fraction Facts and Uneven Division

Finish these fraction facts:

a	b
1. $\frac{1}{5}$ of 45 = ----	$\frac{1}{9}$ of 72 = ----
2. $\frac{1}{9}$ of 36 = ----	$\frac{1}{2}$ of 18 = ----
3. $\frac{1}{8}$ of 72 = ----	$\frac{1}{9}$ of 63 = ----
4. $\frac{1}{9}$ of 27 = ----	$\frac{1}{6}$ of 54 = ----
5. $\frac{1}{9}$ of 81 = ----	$\frac{1}{4}$ of 36 = ----
6. $\frac{1}{7}$ of 63 = ----	$\frac{1}{9}$ of 45 = ----
7. $\frac{1}{9}$ of 54 = ----	$\frac{1}{3}$ of 27 = ----

Write all the work for rows 8 to 10.

a	b	c	d
8. $9\overline{)59}$	$9\overline{)50}$	$8\overline{)74}$	$9\overline{)68}$
9. $7\overline{)59}$	$7\overline{)68}$	$9\overline{)82}$	$6\overline{)50}$
10. $9\overline{)78}$	$9\overline{)65}$	$9\overline{)86}$	$6\overline{)59}$

Table numbers for dividing by 9 are:
9, 18, 27, 36, 45, 54, 63, 72, and 81.

A., S., M., or D.—Which?

Draw a line under A. or S. or M. or D. to show how to solve problems 1 to 12.

1. At one stop, 68 people got on the train. $\frac{1}{4}$ of them were children. How many children got on? A. S. M. D.

2. Four tickets at \$9.78 each cost how much altogether? A. S. M. D.

3. 36 of the 140 seats in a coach are empty. How many seats are filled with passengers? A. S. M. D.

4. A lady bought a 35¢ book, a 10¢ paper, and 40¢ worth of picture cards. How much did she pay in all? A. S. M. D.

5. A man got \$1.20 in change from a \$2.00 bill. What did he pay for the things he bought? A. S. M. D.

6. Mr. Ford's ticket cost \$7.86. Sally's ticket cost half as much. How much was Sally's ticket? A. S. M. D.

7. One conductor rides 369 miles a day. In 5 days, how many miles does he ride on the train? A. S. M. D.

8. Sally rode 572 miles, and Ted rode 293 miles. Sally rode how many more miles than Ted? A. S. M. D.

9. Sally and Ted counted the cows they saw. Sally saw 46 cows on her side of the train. Ted saw 29 on his. In all they saw how many cows? A. S. M. D.

10. The sandwich man started with 55 cheese sandwiches. When he got back, he had 26 sandwiches left. How many had he sold? A. S. M. D.

11. Fifty-two people can eat in the dining car at one time. One day the dining car was filled 6 times. How many people ate there in all? A. S. M. D.

12. Mr. Smith paid \$2.85 for his dinner. His breakfast had cost $\frac{1}{3}$ as much. How much did he pay for breakfast? A. S. M. D.



Now work problems 1 to 12 on another sheet of paper.
Write your answers in the box below.

1. _____	2. _____	3. _____	4. _____	5. _____	6. _____
7. _____	8. _____	9. _____	10. _____	11. _____	12. _____

Five-Place and Six-Place Numbers

1. Write the missing numbers.

7,000 = thousands

70,000 = thousands

700,000 = thousands

2. The number 7,000 has 4 places. The number 70,000 (seventy thousand) has places. 700,000 (seven hundred thousand) has places.

3. In 70,000, the 7 is in ten-thousand's place. It means ten thousands.

4. In 700,000, the 7 is in hundred-thousand's place. It means 7 thousands.

In Ex. 1 to 4, the 7, the 70, and the 700 tell how many thousands. They are in thousand's period.

Now study the chart below.

Period →		Thousand's Period			One's Period		
Place Value →		Hundred Thousand	Ten Thousand	Thousand		Hundred	Ten One
a.	57,609		5	7	,	6	0 9
b.	206,487	2	0	6	,	4	8 7
c.	89,431	-----	-----	-----		-----	-----
d.	583,062	-----	-----	-----		-----	-----
e.	-----	-----	-----	-----		-----	-----
f.	-----	-----	-----	-----		-----	-----
g.	-----	-----	-----	-----		-----	-----

5. In Ex. a above, is in thousand's period; is in one's period.

6. In Ex. b, is in thousand's period; is in one's period.

7. For Ex. c and d, write the figures in their correct periods and places.

8. Write these numbers in figures after the letters e to g in the chart. Then write the figures in their periods and places as you did for Ex. c and d.

e. six hundred fifty thousand eight hundred two.

f. ninety thousand two hundred one.

g. two hundred thousand nine hundred sixteen.

Write the number that has:

9. 9 ten thousands, 6 thousands, 0 hundreds, 8 tens, and 0 ones. -----
10. 5 ten thousands, 7 thousands, 4 hundreds, 3 tens, and 2 ones. -----
11. 2 ten thousands, 6 thousands, and 15 tens. -----
12. 5 hundred thousands, 6 ten thousands, 7 hundreds, and 87 ones. -----
13. 7 hundred thousands, 7 ten thousands, and 7 tens. -----

The Signs Tell You What to Do

a

b

c

d

e

f

1. $6 \overline{)3,540}$

$8 \overline{)5,675}$

$9 \overline{)\$8.06}$

$7 \overline{)4,636}$

$5 \overline{)4,504}$

$9 \overline{)\$68.88}$

2. $\begin{array}{r} 968 \\ \times 4 \\ \hline \end{array}$

$\begin{array}{r} 1,538 \\ - 968 \\ \hline \end{array}$

$\begin{array}{r} 875 \\ + 826 \\ \hline \end{array}$

$\begin{array}{r} 870 \\ \times 9 \\ \hline \end{array}$

$\begin{array}{r} \$9.73 \\ \times 7 \\ \hline \end{array}$

$\begin{array}{r} 7,104 \\ - 3,248 \\ \hline \end{array}$

3. $\begin{array}{r} 789 \\ \times 2 \\ \hline \end{array}$

$\begin{array}{r} 847 \\ \times 7 \\ \hline \end{array}$

$\begin{array}{r} 9,239 \\ - 850 \\ \hline \end{array}$

$\begin{array}{r} \$5.68 \\ \times 8 \\ \hline \end{array}$

$\begin{array}{r} 7,643 \\ - 6,794 \\ \hline \end{array}$

$\begin{array}{r} 4,165 \\ - 969 \\ \hline \end{array}$

4. $\begin{array}{r} 698 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 6,054 \\ - 2,765 \\ \hline \end{array}$

$\begin{array}{r} \$7.85 \\ \times 6 \\ \hline \end{array}$

$\begin{array}{r} \$4.07 \\ + 7.96 \\ \hline \end{array}$

$\begin{array}{r} 509 \\ \times 8 \\ \hline \end{array}$

$\begin{array}{r} 1,385 \\ + 6,918 \\ \hline \end{array}$

5. $\begin{array}{r} 53 \\ 46 \\ 89 \\ + 657 \\ \hline \end{array}$

$\begin{array}{r} \$2.42 \\ 0.15 \\ 3.39 \\ + 1.04 \\ \hline \end{array}$

$\begin{array}{r} 315 \\ 277 \\ 408 \\ + 93 \\ \hline \end{array}$

$\begin{array}{r} 40 \\ 53 \\ 9 \\ + 86 \\ \hline \end{array}$

$\begin{array}{r} \$0.75 \\ 0.89 \\ 0.73 \\ + 0.96 \\ \hline \end{array}$

$\begin{array}{r} 4,289 \\ 247 \\ + 80 \\ \hline \end{array}$

Estimating Quotients

About how much is $\frac{1}{8}$ of 542? About how much is $398 \div 8$? When you want to know only "about how much" or "about how many," you estimate.

1. $542 = \text{about } 54 \text{ tens. } \frac{1}{8} \text{ of } 54 \text{ tens} = 9 \text{ tens; so } \frac{1}{8} \text{ of } 542 = \text{about } 90.$

2. $398 = \text{almost } 40 \text{ tens. } 40 \text{ tens} \div 8 = 5 \text{ tens. So the estimated quotient for } 398 \div 8 \text{ is about } \dots\dots\dots$

Write estimated quotients for these:

a

b

- | | |
|---------------------------------|------------------------------|
| 3. $282 \div 7 \dots\dots\dots$ | 161 $\div 2 \dots\dots\dots$ |
| 4. $319 \div 4 \dots\dots\dots$ | 298 $\div 6 \dots\dots\dots$ |
| 5. $241 \div 3 \dots\dots\dots$ | 483 $\div 8 \dots\dots\dots$ |
| 6. $418 \div 6 \dots\dots\dots$ | 356 $\div 4 \dots\dots\dots$ |
| 7. $267 \div 9 \dots\dots\dots$ | 362 $\div 6 \dots\dots\dots$ |

8. Which is larger, the quotient of $419 \div 7$ or 70? 419 is almost 42 tens.

$42 \text{ tens} \div 7 = \dots\dots \text{ tens, or } \dots\dots\dots$ Is

70 larger? $\dots\dots\dots$ If

it is, draw a line under it.

Work Ex. 9 to 15 in the same way. Ex. 9a and Ex. 10a are done for you.

a

b

- | | |
|--|--------------------|
| 9. $139 \div 2$ or <u>80</u> | 398 $\div 5$ or 60 |
| 10. <u>$562 \div 8$</u> or 60 | 121 $\div 2$ or 70 |
| 11. $422 \div 7$ or 50 | 253 $\div 5$ or 70 |
| 12. $304 \div 6$ or 90 | 719 $\div 9$ or 60 |
| 13. $276 \div 4$ or 80 | 211 $\div 3$ or 50 |
| 14. $637 \div 8$ or 70 | 538 $\div 6$ or 80 |
| 15. $346 \div 7$ or 60 | 723 $\div 8$ or 70 |

Estimating Quotients and Products in Problems

Three estimated answers are given in each problem. Draw a line under the answer that you think is the most sensible.

1. If 4 hats of the same kind cost \$3.56, each hat cost about (70¢, 90¢, 50¢).

2. Six 79¢ baseballs cost a total of about (\$4.80, \$5.60, \$4.10).

3. If Tom saves $\frac{1}{3}$ of his \$2.43, he will save about (30¢, 80¢, 60¢).

4. Eight groups of 62 soldiers make about (300, 360, 480) soldiers in all.

5. Bob, Alan, and Richard each had the same score in a game. Their total score was 177 points. Each boy had about (30, 40, 60) points.

6. If 204 soldiers march in rows of 4, they will make about (50, 30, 70) rows.

7. 7 boxes that hold 38 books each can hold about (280, 350, 420) books altogether.

Check your estimates by finding exact answers on another sheet of paper.

Do You Know the Multiplication Facts?

	a	b	c	d	e	f	g	h	i	j
1.	5×8	4×7	2×8	9×5	6×9	8×7	5×5	6×7	9×4	7×8
2.	6×6	7×9	6×5	8×4	5×7	9×8	4×6	2×7	5×4	3×8
3.	9×7	8×6	7×7	8×9	7×6	9×9	6×4	4×9	8×5	5×9
4.	3×9	5×6	6×8	7×3	2×9	4×8	7×5	9×6	8×8	7×4

Use page 143 of this workbook for practice.

Do You Know the Division Facts?

	a	b	c	d	e	f	g	h	i
1.	$8 \overline{)24}$	$7 \overline{)14}$	$5 \overline{)20}$	$9 \overline{)54}$	$4 \overline{)36}$	$6 \overline{)24}$	$8 \overline{)48}$	$5 \overline{)40}$	$7 \overline{)28}$
2.	$6 \overline{)36}$	$3 \overline{)27}$	$7 \overline{)49}$	$5 \overline{)45}$	$6 \overline{)18}$	$9 \overline{)72}$	$2 \overline{)16}$	$4 \overline{)20}$	$8 \overline{)56}$
3.	$8 \overline{)64}$	$7 \overline{)56}$	$9 \overline{)45}$	$2 \overline{)14}$	$7 \overline{)63}$	$2 \overline{)18}$	$6 \overline{)54}$	$9 \overline{)27}$	$5 \overline{)35}$
4.	$9 \overline{)81}$	$6 \overline{)12}$	$6 \overline{)48}$	$5 \overline{)25}$	$9 \overline{)18}$	$8 \overline{)72}$	$7 \overline{)21}$	$8 \overline{)32}$	$3 \overline{)15}$
5.	$4 \overline{)28}$	$7 \overline{)35}$	$8 \overline{)40}$	$9 \overline{)36}$	$5 \overline{)15}$	$3 \overline{)21}$	$9 \overline{)63}$	$8 \overline{)16}$	$6 \overline{)30}$

	a	b	c	d	e
6.	$\frac{1}{3}$ of 24 = ----	$\frac{1}{8}$ of 56 = ----	$\frac{1}{3}$ of 18 = ----	$\frac{1}{9}$ of 63 = ----	$\frac{1}{5}$ of 30 = ----
7.	$\frac{1}{7}$ of 42 = ----	$\frac{1}{9}$ of 72 = ----	$\frac{1}{4}$ of 32 = ----	$\frac{1}{6}$ of 42 = ----	$\frac{1}{4}$ of 24 = ----

Use page 144 of this workbook for practice.

Can You Tell?

1. Put X on each figure that is in ten-thousand's place.

86,914 249,763 709,435 50,816

2. In the numbers above, circle each figure in hundred-thousand's place.

Put \checkmark before each true sentence below.

.... 3. In the number 210,457 there are in all 21 ten thousands.

.... 4. In the number 572,438 only the figure 2 is in thousand's period.

.... 5. 437,516 is the largest number that can be written with 1, 3, 4, 5, 6, and 7.

.... 6. There are no ten thousands at all in the number 206,497.

.... 7. In a 5-place number there are always three figures in one's period.

.... 8. 99,999 is a larger number than 100,201.

Draw a line under the word or number in the () that makes each sentence correct.

9. In writing 40 as a Roman number you put X (before, after) L.

10. The fraction $\frac{7}{8}$ tells that a whole has been divided into (7, 8) equal parts.

11. To change 20 qt. of milk to gallons, you need (more, fewer) containers.

12. The best estimated quotient for $628 \div 7$ is (50, 70, 90).

13. The best estimated product for 8×71 is (500, 560, 640).

14. $\frac{3}{4}$ apples equal (1, 2, 4) whole apples.

15. The numerator in $\frac{5}{7}$ is (5, 7).

16. XXIX means (19, 24, 29).

17. When the temperature is 85° , it is a (warm, cold) day.

Finding n

On another sheet of paper, find the values of n. Write these values after the examples.

a

b

c

1. $n \times 8 = 504$

$n \div 9 = 79$

$n = 300 + 74$

2. $66 = n - 138$

$n + 74 = 405$

$765 = 9 \times n$

3. $n \div 6 = 97$

$7 \times n = 532$

$n - 60 = 190$

4. $284 - 129 = n$

$n - 82 = 149$

$n = 5 \times 89$

5. $49 = n \div 7$

$4 \times n = 384$

$294 \div 3 = n$

Multiplying by a Ten



1. For her party, Sue set 10 tables. If 4 children sit at a table, how many children will there be? Ten 4's = ?

a. Count by 4's. Ten 4's =

b. Four 10's = 40, so ten 4's =

$$10 \times 4 = \dots\dots\dots$$

2. On each table Sue put 3 roses. For the 10 tables she needed how many roses? Ten 3's = ?

a. Count by 3's. Ten 3's =

b. $3 \times 10 = \dots\dots\dots$, so $10 \times 3 = \dots\dots\dots$

Write the missing numbers.

3. $2 \times 10 = \dots\dots\dots$, so $10 \times 2 = \dots\dots\dots$

4. Six 10's =, so ten 6's =

5. Five 10's =, so ten 5's =

6. $10 \times 8 = ?$ Study the work in the box. Does the 0 in the product hold the 8 in ten's place?

$$\begin{array}{r} 8 \\ \times 10 \\ \hline 80 \end{array}$$

To find 10 times a number, write the number and make it mean tens by writing a 0 after it.

Write the products.

$$\begin{array}{r} 2 \qquad \qquad 5 \qquad \qquad 8 \qquad \qquad 4 \\ \times 10 \quad \times 10 \quad \times 10 \quad \times 10 \end{array}$$

$$\begin{array}{r} 7 \qquad \qquad 6 \qquad \qquad 3 \qquad \qquad 9 \\ \times 10 \quad \times 10 \quad \times 10 \quad \times 10 \end{array}$$

Multiplying by More than 1 Ten

1. One summer Carol found 20 four-leaf clovers. How many leaves were there on the 20 clovers? $20 \times 4 = ?$



2 tens $\times 4 = 8$ tens, so $20 \times 4 = \dots\dots\dots$

2. $30 \times 2 = ?$ 3 tens $\times 2 = 6$ tens,

so $30 \times 2 = \dots\dots\dots$

3. $40 \times 4 = ?$ 4 tens $\times 4 = \dots\dots\dots$

tens, so $40 \times 4 = \dots\dots\dots$

4. $20 \times 8 = ?$ 2 tens $\times 8 = \dots\dots\dots$

tens, so $20 \times 8 = \dots\dots\dots$

Write products in rows 5 and 6 as in the box.

$$\begin{array}{r} 5 \\ \times 90 \\ \hline 450 \end{array}$$

$$\begin{array}{r} 3 \qquad \qquad 4 \qquad \qquad 2 \qquad \qquad 3 \qquad \qquad 5 \\ \times 30 \quad \times 70 \quad \times 40 \quad \times 50 \quad \times 60 \end{array}$$

$$\begin{array}{r} 8 \qquad \qquad 9 \qquad \qquad 7 \qquad \qquad 8 \qquad \qquad 6 \\ \times 50 \quad \times 60 \quad \times 90 \quad \times 70 \quad \times 80 \end{array}$$

Tens Numbers as Multipliers

a	b	a	b
1. 23	23	2. 68	68
$\times 3$	$\times 30$	$\times 4$	$\times 40$
69	690	272	

1. In Ex. 1a, we multiply by 3 ones, so the answer means 69

In Ex. 1b, the multiplier is 30, or 3, so the product is 69 tens. We write 0 in the product to hold one's place and to make 69 mean 69

2. In Ex. 2a, we multiply by 4 The answer means 272

Finish Ex. 2b. To show that the product means tens, we write in one's place.

3. In each of the pairs of examples below, cross out the example in which the product is not correct.

93	93	64	64
$\times 50$	$\times 50$	$\times 70$	$\times 70$
465	4,650	4,480	448

Write the products for rows 4 to 6. Check by doing the work again.

a	b	c	d
4. 18	16	49	27
$\times 40$	$\times 60$	$\times 20$	$\times 30$
5. 34	87	48	79
$\times 30$	$\times 50$	$\times 70$	$\times 40$
6. 29	78	96	51
$\times 30$	$\times 90$	$\times 80$	$\times 90$

Multiplying by Other 2-Place Numbers

1. How many eggs are there in a box that holds 24 dozen? $24 \times 12 = ?$

$24 = 2$ tens and 4 ones. You can multiply in 3 steps.

Step 1. Multiply by ones.

Step 2. Multiply by tens.

Step 3. Add the two products.

Step 1. $4 \times 12 = 48$ (eggs in 4 doz.)

Step 2. $20 \times 12 = 240$ (eggs in 20 doz.)

Step 3. Add. (eggs in 24 doz.)

The box shows another way to write the three steps.

	Step 1 M. by ones	Step 2 M. by tens
12	12	12
$\times 24$	$\times 4$	$\times 20$
48	48	240
240		
288		

Step 3. Add products

When you multiply by a 2-place number, first multiply by the ones, then by the tens, and then add the two products.

2. $36 \times 27 = ?$ Box A shows the work in one example instead of three, but there are still three steps.

Step 1. Multiply by the 6 ones.

Step 2. Multiply by the 3 tens.

Step 3. Add the products. Write the answer in box A.

A

$$\begin{array}{r} 27 \\ \times 36 \\ \hline 162 \\ 810 \\ \hline \end{array}$$

In box A, the 162 and the 810 are called partial products. In the second partial product, 810, a 0 is written in one's place to help us remember that the 81 means 81 tens.

3. $24 \times 47 = ?$ Box B.

The first partial product is

To find the second partial product, multiply by tens. Is it 940?

Write it in box B.

Add the partial products. Write the sum.

Does $24 \times 47 = 1,128$?

B

$$\begin{array}{r} 47 \\ \times 24 \\ \hline 188 \\ \hline \end{array}$$

Multiply in rows 4, 5, and 6. To check, multiply again.

	a	b	c	d	e	f	g
4.	$\begin{array}{r} 36 \\ \times 28 \\ \hline \end{array}$	$\begin{array}{r} 27 \\ \times 35 \\ \hline \end{array}$	$\begin{array}{r} 23 \\ \times 46 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ \times 18 \\ \hline \end{array}$	$\begin{array}{r} 40 \\ \times 29 \\ \hline \end{array}$	$\begin{array}{r} 98 \\ \times 15 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ \times 87 \\ \hline \end{array}$

5.	$\begin{array}{r} 28 \\ \times 38 \\ \hline \end{array}$	$\begin{array}{r} 69 \\ \times 16 \\ \hline \end{array}$	$\begin{array}{r} 48 \\ \times 27 \\ \hline \end{array}$	$\begin{array}{r} 24 \\ \times 45 \\ \hline \end{array}$	$\begin{array}{r} 56 \\ \times 18 \\ \hline \end{array}$	$\begin{array}{r} 23 \\ \times 24 \\ \hline \end{array}$	$\begin{array}{r} 87 \\ \times 19 \\ \hline \end{array}$
----	--	--	--	--	--	--	--

6.	$\begin{array}{r} 65 \\ \times 17 \\ \hline \end{array}$	$\begin{array}{r} 34 \\ \times 28 \\ \hline \end{array}$	$\begin{array}{r} 29 \\ \times 39 \\ \hline \end{array}$	$\begin{array}{r} 33 \\ \times 32 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ \times 64 \\ \hline \end{array}$	$\begin{array}{r} 29 \\ \times 37 \\ \hline \end{array}$	$\begin{array}{r} 86 \\ \times 17 \\ \hline \end{array}$
----	--	--	--	--	--	--	--

Larger Products with Checking

1. $38 \times 47 = ?$ Study box A.

The second partial product has ---- places. Is there anything else that is new?

A $\begin{array}{r} 47 \\ \times 38 \\ \hline 376 \\ 1410 \\ \hline 1,786 \end{array}$
--

2. Box B. To check the work in box A, change the multiplicand and the multiplier around and multiply again. Finish the work in box B. See if the product is the same as in box A.

B Check $\begin{array}{r} 38 \\ \times 47 \\ \hline 266 \\ 1520 \\ \hline \end{array}$
--

Multiply in row 3.

a	b	c	d
3. $\begin{array}{r} 48 \\ \times 26 \\ \hline \end{array}$	$\begin{array}{r} 75 \\ \times 42 \\ \hline \end{array}$	$\begin{array}{r} 69 \\ \times 71 \\ \hline \end{array}$	$\begin{array}{r} 28 \\ \times 59 \\ \hline \end{array}$

4. Write the examples you would use to check the four examples in row 3.

a. 26 b. c. d.

\times _____

Multiply in rows 5 to 7. Then, on another sheet of paper, check your work for row 5 as in box B.

a	b	c	d	e	f	g
5. $\begin{array}{r} 39 \\ \times 14 \\ \hline \end{array}$	$\begin{array}{r} 72 \\ \times 87 \\ \hline \end{array}$	$\begin{array}{r} 97 \\ \times 35 \\ \hline \end{array}$	$\begin{array}{r} 24 \\ \times 32 \\ \hline \end{array}$	$\begin{array}{r} 87 \\ \times 63 \\ \hline \end{array}$	$\begin{array}{r} 58 \\ \times 45 \\ \hline \end{array}$	$\begin{array}{r} 36 \\ \times 29 \\ \hline \end{array}$

6. $\begin{array}{r} 57 \\ \times 89 \\ \hline \end{array}$	$\begin{array}{r} 69 \\ \times 38 \\ \hline \end{array}$	$\begin{array}{r} 94 \\ \times 65 \\ \hline \end{array}$	$\begin{array}{r} 62 \\ \times 34 \\ \hline \end{array}$	$\begin{array}{r} 93 \\ \times 19 \\ \hline \end{array}$	$\begin{array}{r} 53 \\ \times 52 \\ \hline \end{array}$	$\begin{array}{r} 96 \\ \times 98 \\ \hline \end{array}$
---	--	--	--	--	--	--

7. $\begin{array}{r} 53 \\ \times 76 \\ \hline \end{array}$	$\begin{array}{r} 70 \\ \times 65 \\ \hline \end{array}$	$\begin{array}{r} 46 \\ \times 95 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ \times 83 \\ \hline \end{array}$	$\begin{array}{r} 84 \\ \times 47 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ \times 89 \\ \hline \end{array}$	$\begin{array}{r} 83 \\ \times 18 \\ \hline \end{array}$
---	--	--	--	--	--	--

Multiplying Money Numbers



$$\begin{array}{r} \text{A} \quad 3\text{¢} \\ \times 36 \\ \hline 108\text{¢}, \\ \text{or } \$1.08 \end{array}$$

$$\begin{array}{r} \text{B} \quad 36 \\ \times 3 \\ \hline 108, \\ \text{or } 108\text{¢}, \\ \text{or } \$1.08 \end{array}$$



$$\begin{array}{r} \text{C} \quad \$0.35 \\ \times 36 \\ \hline 210 \\ 1050 \\ \hline \end{array}$$

Small money numbers

1. 36 erasers at 3¢ each cost how much?

To find out, we could multiply as in box A. But it is easier to change the factors about as in box B.

We make the product a money number.

In boxes 2 to 4 below, write the M. examples for Ex. 2 to 4 as in B. Then find the answers and write them in the boxes.

2. 48 oranges at 5¢ each.

3. 24 peaches at 8¢ each.

4. 72 pears at 9¢ each.

2.	3.	4.

Larger money numbers

5. What is the cost of 36 magazines at 35¢ each? (Box C.)

Since the answer may have both dollars and cents, we write 35¢ as \$0.35.

Finish the work in box C. Be sure to write the answer as a money number.

Multiply in Ex. 6 to 11.

$$\begin{array}{r} \text{6. } \$0.57 \\ \times 76 \\ \hline \end{array}$$

$$\begin{array}{r} \text{7. } \$0.39 \\ \times 59 \\ \hline \end{array}$$

$$\begin{array}{r} \text{8. } \$0.98 \\ \times 83 \\ \hline \end{array}$$

$$\begin{array}{r} \text{9. } \$0.49 \\ \times 67 \\ \hline \end{array}$$

$$\begin{array}{r} \text{10. } \$0.67 \\ \times 86 \\ \hline \end{array}$$

$$\begin{array}{r} \text{11. } \$0.56 \\ \times 34 \\ \hline \end{array}$$

Practice in Division

a

b

c

d

e

$$5 \overline{)2,492}$$

$$8 \overline{)8,072}$$

$$6 \overline{)9,604}$$

$$7 \overline{)6,827}$$

$$9 \overline{)5,407}$$

Estimating Answers

Draw a line under the best of the three estimated answers given in each problem. Do not solve.



1. The Fries use 6 qt. of milk a day. In a 31-day month they use about (150, 180, 200) qt.

2. Of 284 bottles of cream, $\frac{1}{4}$, or about (90, 80, 70) bottles, were heavy cream.

3. At 22¢ a quart, 7 qt. of milk cost about (\$1.40, \$1.00, \$0.80).

4. A milkman sold all but 21 of the 89 bottles of chocolate milk that he had in his truck when he started out. He sold about (30, 50, 70) bottles.

5. Mr. Ward paid \$2.37 for 3 train tickets to Mills. Each ticket cost about (\$0.70, \$0.80, \$1.00).

6. In a long train there were 39 coal cars and 38 freight cars. In all there were about (60, 80, 100) cars.

7. A freight train takes 91 min. for a trip. A passenger train takes 18 min. less, or about (70, 60, 50) min.

Now find exact answers for problems 1 to 7. Write your answers here.

1. ----- 2. ----- 3. -----

4. ----- 5. ----- 6. ----- 7. -----

Time for Practice!

Add, subtract, multiply, or divide as the signs tell you.

a	b	c
1. $\begin{array}{r} 9,000 \\ - 6,527 \\ \hline \end{array}$	$\begin{array}{r} 589 \\ + 1,583 \\ \hline \end{array}$	$\begin{array}{r} 1,827 \\ - 747 \\ \hline \end{array}$

2. $\begin{array}{r} \$2.09 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 4,978 \\ - 1,208 \\ \hline \end{array}$	$\begin{array}{r} \$3.87 \\ \times 8 \\ \hline \end{array}$
--	---	---

3. $\begin{array}{r} 2,408 \\ + 495 \\ \hline \end{array}$	$\begin{array}{r} \$85.17 \\ - 36.08 \\ \hline \end{array}$	$\begin{array}{r} \$4.29 \\ \times 5 \\ \hline \end{array}$
--	---	---

4. $\begin{array}{r} \$0.30 \\ 0.87 \\ 0.79 \\ 0.56 \\ + 0.32 \\ \hline \end{array}$	$\begin{array}{r} 8\text{¢} \\ 29\text{¢} \\ 6\text{¢} \\ 37\text{¢} \\ + 15\text{¢} \\ \hline \end{array}$	$\begin{array}{r} 78 \\ \times 96 \\ \hline \end{array}$
--	---	--

a	b	c
5. $3 \overline{)1,772}$	$4 \overline{)7,603}$	$5 \overline{)4,035}$

6. $9 \overline{)3,890}$	$7 \overline{)9,834}$	$8 \overline{)2,376}$
--------------------------	-----------------------	-----------------------

Can You Tell?

Put \checkmark before each sentence that is true.

- ... 1. All halves are equal in size.
- ... 2. All 6-place numbers have a figure in hundred-thousand's place.
- ... 3. $\frac{10}{5} = 2$ whole things.
- ... 4. In $61 \div 8$, the table number is 56.
- ... 5. $\frac{1}{7}$ of 49 is the same as $49 \div 7$.
- ... 6. To check in M., you add the product to the multiplier.
- ... 7. In 68,200, the 6 means 60,000.
- ... 8. $38 \times 42 = 1,596$; so the product of 42×38 is also 1,596.

Draw a line under the words and numbers that make these sentences true.

9. $n \div 7 = 63$. To find n , (add 7 and 63, divide 63 by 7, multiply 63 by 7).
10. To get $\frac{5}{6}$ of something, you must first have (5, 6, 11) equal parts.
11. $\frac{1}{4}$ pound = (4, 16, 32) ounces.
12. In 346,217 the figures in thousand's period are (346, 46, 621).
13. 2 yards = (6, 36, 72) inches.
14. If you cut 5 apples into thirds, you will have (5, 10, 15) thirds in all.
15. The freezing point of water is (0° , 32° , 212°).

Chapter Test 7

Do what the signs tell you to do. Work carefully.

- | | a | b | c | | a | b | c |
|----|---|---|--|----|-----------------------|-----------------------|-----------------------|
| 1. | $\begin{array}{r} 609 \\ \times 6 \\ \hline \end{array}$ | $\begin{array}{r} 1,468 \\ - 753 \\ \hline \end{array}$ | $\begin{array}{r} 3,645 \\ + 4,728 \\ \hline \end{array}$ | 5. | $7 \overline{)4,250}$ | $8 \overline{)4,864}$ | $9 \overline{)8,164}$ |
| 2. | $\begin{array}{r} 3,784 \\ - 504 \\ \hline \end{array}$ | $\begin{array}{r} \$6.54 \\ \times 8 \\ \hline \end{array}$ | $\begin{array}{r} 9,656 \\ - 3,459 \\ \hline \end{array}$ | | | | |
| 3. | $\begin{array}{r} \$3.97 \\ \times 4 \\ \hline \end{array}$ | $\begin{array}{r} 2,053 \\ + 6,949 \\ \hline \end{array}$ | $\begin{array}{r} \$1.65 \\ \times 7 \\ \hline \end{array}$ | | | | |
| 4. | $\begin{array}{r} 87 \\ 30 \\ 6 \\ 72 \\ + 9 \\ \hline \end{array}$ | $\begin{array}{r} 57 \\ \times 92 \\ \hline \end{array}$ | $\begin{array}{r} \$0.49 \\ \times 73 \\ \hline \end{array}$ | 6. | $6 \overline{)4,134}$ | $2 \overline{)1,599}$ | $5 \overline{)3,476}$ |

The Meaning of "Average"

8



1. Jane has put the soup dishes in groups of 4, 6, and 5. How many dishes are there in all?

2. If Jane moved 1 dish from the 6-group to the 4-group, then there would be how many dishes in each group?

5 is the average of 4, 6, and 5. If the 15 dishes were in 3 equal groups, there would be $\frac{1}{3}$ of the total ($\frac{1}{3}$ of 15 dishes), or 5 dishes, in each group.

3. The cups are in groups of 2, 3, 4, and 3. There are ----- cups in all.

Since there are 4 groups, to find the average number of cups in a group you would find ---- of 12. $12 \div 4 = \text{-----}$.

To find the average of several groups, you divide their total by the number of groups.

4. If there are 27 spoons in 3 piles, the average is ?_ spoons to a pile.

Each pile would have ---- of the ----- spoons, so the average is ---- spoons.

5. Ted made scores of 93, 85, 90, and 84 on 4 tests. His average score was what?

Step 1. Find the total of the 4 scores.

Step 2. Find $\frac{1}{4}$ of the total (352). That is, divide 352 by 4.

Ted's average score was -----.

6. Find the average score of each of the children below.

Ellen----- Joe----- Sue----- Don-----

Ellen	Joe	Sue	Don
70	89	65	87
73	92	76	91
69	89	79	84
<u>+ 80</u>	<u>+ 90</u>	<u>+ 84</u>	<u>+ 94</u>

4) _____) _____) _____) _____

Step 1

93

85

90

+ 84

352

Step 2

88

4)352

32

32

32

More about Averages

1. Look again at Ex. 6 on page 126.

Which child had the highest score for one

test? Was his

average the highest? Which

child got the lowest score?

Did she have the lowest average?

Don's average was Did he get

this score on any of the tests?

2. Each part of Ex. 6 on page 126 has

two steps. First, you must find the

..... Then you find how many in

each equal part of the total.

In some find-the-average problems there is only one step, because the total is given.

3. In all, 3 pigs weigh 1,209 pounds. On the average, each pig weighs how many pounds?

Is the total given?

.....

Is this a 2-step problem?

Find the average in the box. It is lb.

Read Ex. 4 to 9. Put \checkmark before each problem that is solved in two steps.

.... 4. In three days, Mr. Grayson's total sales of magazines were \$226.65. What was his average for each day?

.... 5. The first 6 sentences in a letter had 7, 12, 8, 11, 13, and 9 words. The average sentence had how many words?

.... 6. In 4 jumps, Ned jumped 127 in., 135 in., 129 in., and 133 in. How many inches long was his average jump?

.... 7. Three boys weigh 79 pounds, 87 pounds, and 92 pounds. What is the average?

.... 8. Ann counted the number of apples in 4 baskets. There were 15, 19, 21, and 17. What was the average number?

.... 9. Mr. Olson sold \$233.12 worth of brushes in 4 days. His average sales each day were how much?

10. Read Ex. 4 to 9 again. To find the average, you must divide the total

in Ex. 4 by in Ex. 7 by

in Ex. 5 by in Ex. 8 by

in Ex. 6 by in Ex. 9 by

Find the answers for Ex. 4 to 9. Write them here:

4. 5. 6.

7. 8. 9.

Working with Averages



1. The average amount of milk held by each of the 3 cans above is 8 gallons. How many gallons do the 3 cans hold in all?

a. You can add the numbers on the cans.

$$8 \text{ gal.} + 10 \text{ gal.} + 6 \text{ gal.} = \text{----- gal.}$$

b. Since you know the average number of gallons in a can, you can multiply instead of adding.

$$3 \times 8 \text{ gal.} = \text{----- gal.}$$

When you know the average of several groups, you can find the total by multiplying the average by the number of groups.

Find answers for Ex. 2 to 5 on another sheet of paper. Write them in the box.

2. On a 4-day trip, Mr. Simpson drove an average of 353 miles a day. In the 4 days, he drove how many miles?

3. On the average, Mr. Simpson's car went 21 miles on a gallon of gasoline. On 12 gallons it went how many miles?

4. Six books average 246 pages. In the 6 books there are how many pages in all?

5. The average of 18 numbers is 42. Find their total.

Answers

2. ----- 3. -----

4. ----- 5. -----

Finding the Hidden Question

1. Ned had 312 United States stamps and 489 stamps from other countries. He gave away 37 stamps. How many stamps did he have left?

Can you find the answer by subtracting

37 from 312? ----- by subtracting

37 from 489? ----- by subtracting

312 from 489? ----- by adding

all three numbers? -----

This is a 2-step problem. First you must find how many stamps Ned had in

all. To find out, you add 312 and 489. Then you must subtract 37 from the sum. So the problem really has two questions.

One question is given: How many stamps did he have left? This is the problem question.

The other question is hidden: How many stamps did he have in all?

In the space below, find the answer for Ex. 1. Be sure to answer the hidden question first.

Every two-step problem contains a hidden question. To find the answer to the problem question, first you answer the hidden question.

2. Is there a hidden question in some find-the-average problems? -----

Write the hidden question in Ex. 3.

3. In 3 days Lois worked 35 min., 45 min., and 55 min. How many minutes did she work each day on the average?

For each of Ex. 4 to 7 write the problem question and the hidden question.

4. Joe earned 65¢ a week for 5 weeks. He put this money with \$7.79 that he had in the bank. How much had he then?

Problem question: -----

Hidden question: -----

5. Mary earned 70¢ a week by helping her mother. After working 4 weeks, she spent \$1.35. How much did she have left?

Problem question: -----

Hidden question: -----

6. Ruth saves \$1.75 a month, and Joe saves \$2.15. In 6 months, how much more will Joe save than Ruth?

Problem question: -----

Hidden question: -----

7. Tom spent \$1.15 for tennis balls and \$5.95 for a net. If he paid for them with a \$10.00 bill, how much was his change?

Problem question: -----

Hidden question: -----

Now solve Ex. 3 to 7. Write the answers here:

3. ----- 4. -----

5. ----- 6. -----

7. -----

Practice in Multiplication

a	b	c	d	e	Check Ex. 1a
1. $\begin{array}{r} 95 \\ \times 74 \\ \hline \end{array}$	$\begin{array}{r} 64 \\ \times 86 \\ \hline \end{array}$	$\begin{array}{r} 46 \\ \times 35 \\ \hline \end{array}$	$\begin{array}{r} \$0.38 \\ \times 94 \\ \hline \end{array}$	$\begin{array}{r} \$0.46 \\ \times 27 \\ \hline \end{array}$	

2. $\begin{array}{r} 78 \\ \times 65 \\ \hline \end{array}$	$\begin{array}{r} 67 \\ \times 43 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ \times 78 \\ \hline \end{array}$	$\begin{array}{r} \$0.95 \\ \times 56 \\ \hline \end{array}$	$\begin{array}{r} \$0.59 \\ \times 98 \\ \hline \end{array}$	Check Ex. 2a
---	--	--	--	--	--------------

The Signs Tell You What to Do

a	b	c	d	e	f
1. $\begin{array}{r} \$0.97 \\ \times 49 \\ \hline \end{array}$	$\begin{array}{r} \$57.35 \\ 8.54 \\ 4.76 \\ 0.98 \\ +18.84 \\ \hline \end{array}$	$\begin{array}{r} 5,901 \\ -5,794 \\ \hline \end{array}$	$\begin{array}{r} 8 \overline{)7,206} \end{array}$	$\begin{array}{r} 89 \\ \times 57 \\ \hline \end{array}$	$\begin{array}{r} \$4.47 \\ 7.25 \\ 4.45 \\ 7.94 \\ +9.19 \\ \hline \end{array}$

2. $\begin{array}{r} 3,451 \\ -959 \\ \hline \end{array}$	$\begin{array}{r} \$7.25 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 6 \overline{) \$36.05} \end{array}$	$\begin{array}{r} 656 \\ 6,263 \\ +702 \\ \hline \end{array}$	$\begin{array}{r} \$0.56 \\ \times 67 \\ \hline \end{array}$	$\begin{array}{r} \$21.22 \\ -16.84 \\ \hline \end{array}$
---	---	---	---	--	--

3. $\begin{array}{r} 86 \\ 13 \\ 5 \\ 70 \\ +97 \\ \hline \end{array}$	$9 \overline{) \$62.52}$	$\begin{array}{r} \$0.68 \\ \times 96 \\ \hline \end{array}$	$\begin{array}{r} \$87.61 \\ -76.75 \\ \hline \end{array}$	$\begin{array}{r} \$0.69 \\ \times 83 \\ \hline \end{array}$	$5 \overline{) \$74.65}$
--	--------------------------	--	--	--	--------------------------

1-Step and 2-Step Problems



Put \checkmark before all 2-step problems.

---- 1. Joe found 87 horse chestnuts, and Ned found 93. If they shared the nuts equally, each got how many?

---- 2. Joe picked up 43 of his 87 horse chestnuts under one tree. How many did he find under other trees?

---- 3. How many yards are there in 144 feet? (3 ft. = 1 yd.)

---- 4. Four boards are 8 feet, 6 feet, 9 feet, and 10 feet long. In all, the four boards are how many yards long?

---- 5. Spot's 5 puppies together weigh 45 lb. What is their average weight?

---- 6. Three cats weigh 3 lb., 5 lb., and 4 lb. What is their average weight?

---- 7. Eight baby pigs average 13 lb. in weight. What is their total weight?

---- 8. How many inches long in all are two pieces of cloth, one 5 feet long and the other 8 feet long?

Now find the answers. Write them here:

1. ----- 2. ----- 3. ----- 4. -----

5. ----- 6. ----- 7. ----- 8. -----

Practice in Division

a

b

c

d

Check Ex. 1a

1. $3 \overline{)9,028}$

$5 \overline{)4,009}$

$9 \overline{)6,847}$

$7 \overline{)7,004}$

Check Ex. 2a

2. $2 \overline{)3,807}$

$8 \overline{)8,567}$

$4 \overline{)3,478}$

$6 \overline{)4,734}$

Making Partial Products Shorter

1. Ex. A is done in the way you know.

Ex. B is a shorter way to write the work. We do not write the zero in the second partial product.

A	B
$\begin{array}{r} 37 \\ \times 24 \\ \hline 148 \\ 740 \\ \hline 888 \end{array}$	$\begin{array}{r} 37 \\ \times 24 \\ \hline 148 \\ 74 \\ \hline 888 \end{array}$

Does 74 still mean 74 tens?

The 4 of 74 is in ten's place, under the figure of the multiplier.

The right-hand figure of each partial product goes in the same column as the figure you multiply by.

When multiplying by the ten's figure, put the right-hand figure of that partial product in ten's place.

Study Ex. 2a and 2b. In Ex. 2b, the work is written the short way.

Write your work for Ex. 2c and 2d and then for rows 3 and 4 the short way.

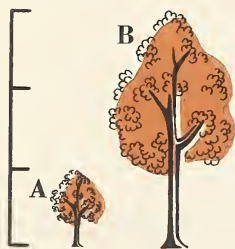
a	b	c	d
2. $\begin{array}{r} 45 \\ \times 86 \\ \hline 270 \\ 3600 \\ \hline 3870 \end{array}$	$\begin{array}{r} 45 \\ \times 86 \\ \hline 270 \\ 360 \\ \hline 3870 \end{array}$	$\begin{array}{r} 37 \\ \times 45 \\ \hline \end{array}$	$\begin{array}{r} 46 \\ \times 84 \\ \hline \end{array}$

3. $\begin{array}{r} 93 \\ \times 97 \\ \hline \end{array}$	$\begin{array}{r} 58 \\ \times 57 \\ \hline \end{array}$	$\begin{array}{r} 29 \\ \times 36 \\ \hline \end{array}$	$\begin{array}{r} 86 \\ \times 49 \\ \hline \end{array}$
---	--	--	--

4. $\begin{array}{r} 74 \\ \times 92 \\ \hline \end{array}$	$\begin{array}{r} 62 \\ \times 57 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ \times 68 \\ \hline \end{array}$	$\begin{array}{r} 93 \\ \times 86 \\ \hline \end{array}$
---	--	--	--

Using Fractions to Compare Sizes

1. Which tree is shorter? Tree



Tree A is only $\frac{1}{3}$ as tall as tree B.

We can use fractions to compare the sizes of things or groups of things.

2. Compare tree C with tree D.



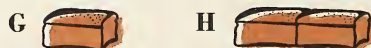
Tree C is only $\frac{3}{4}$ as tall as tree D.

For each of Ex. 3 to 8, compare the things in the picture and write the missing fraction.

3. Board E is as long as board F.



4. Loaf G is as long as loaf H.



5. Stick I is as long as stick J.



6. Stool K is as high as stool L.

7. Line N is as long as line M.

8. Line O is as long as line P.

9. With your pencil, make part of line R black. Make the black part $\frac{7}{9}$ as long as line Q.

10. Make part of line S black so that the black part will be $\frac{3}{5}$ as long as line Q.

Write the missing fractions in Ex. 11 to 17.

11. Figure T has 10 equal parts. Figure U has 8 equal parts of the same size as the parts of figure T. Figure U is as large as figure T.

12. Figure V is as large as figure T.

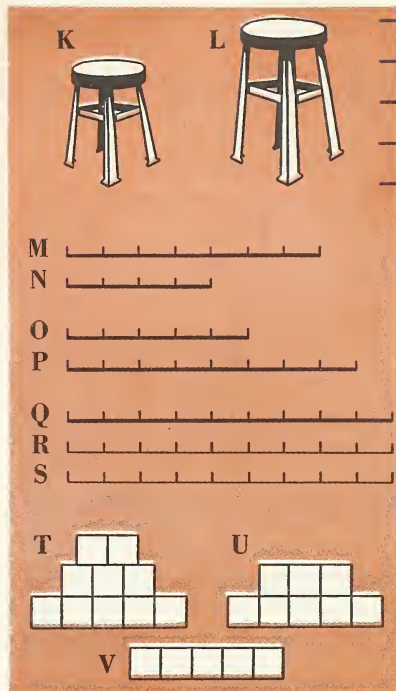
13. Figure V is as large as figure U.

14. A 5¢ pencil costs as much as a 9¢ tablet.

15. The number 5,689 has as many figures as the number 217,403.

16. Three quarts of milk are just of a gallon.

17. The name Fred has as many letters as the name Frederick.



Time for Practice!

Do what the signs tell you to do. Work carefully!

a

b

c

d

e

f

$$\begin{array}{r} 1. \$15.00 \\ - 7.84 \\ \hline \end{array}$$

$$\begin{array}{r} \$9.50 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 8,121 \\ - 7,729 \\ \hline \end{array}$$

$$\begin{array}{r} 947 \\ + 8,033 \\ \hline \end{array}$$

$$\begin{array}{r} 759 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} \$92.13 \\ - 36.84 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \$0.69 \\ \times 94 \\ \hline \end{array}$$

$$\begin{array}{r} \$0.73 \\ 0.48 \\ 0.49 \\ 0.80 \\ + 0.67 \\ \hline \end{array}$$

$$5\overline{)3,954}$$

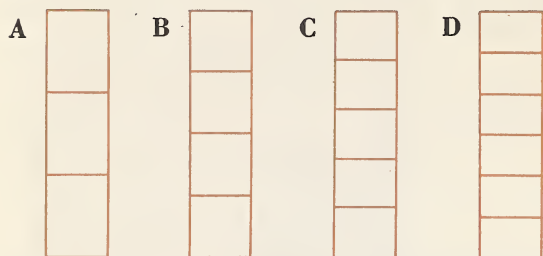
$$7\overline{)6,356}$$

$$\begin{array}{r} \$0.49 \\ \times 56 \\ \hline \end{array}$$

$$4\overline{)\$80.35}$$

Fractions Can Be Compared

1. Are bars A to D the same length?



Are all the bars divided into the same number of parts?

2. On one of the equal parts of bar A write the fraction that names the part. Do the same for the other bars.

3. Is $\frac{1}{3}$ (bar A) larger or smaller than $\frac{1}{5}$ (bar C)?

Circle the smaller fraction in each pair. Use bars A to D to help you.

4. $\frac{1}{3}, \frac{1}{6}$

5. $\frac{1}{6}, \frac{1}{4}$

6. $\frac{1}{4}, \frac{1}{5}$

7. $\frac{1}{6}, \frac{1}{5}$

8. $\frac{1}{5}, \frac{1}{3}$

9. $\frac{1}{3}, \frac{1}{4}$

10. If you divide a thing into more and more equal parts, does the size of one of the parts get larger or smaller?

11. As denominators in fractions get larger, does the size of one of the equal parts get smaller or larger?

The fractions below are parts of the same thing. Copy the fractions in each set in order, from smallest to largest.

12. $\frac{1}{4}, \frac{1}{2}, \frac{1}{7}$

13. $\frac{1}{5}, \frac{1}{2}, \frac{1}{6}, \frac{1}{10}$

14. $\frac{1}{8}, \frac{1}{3}, \frac{1}{4}$

15. $\frac{1}{7}, \frac{1}{9}, \frac{1}{8}, \frac{1}{6}$

16. $\frac{1}{2}, \frac{1}{4}, \frac{1}{8}$

17. $\frac{1}{3}, \frac{1}{7}, \frac{1}{10}, \frac{1}{2}$

18. $\frac{1}{9}, \frac{1}{4}, \frac{1}{3}, \frac{1}{6}$

Practice in Estimating

After each exercise, three estimated answers are given.
Circle the best estimate in each exercise.

1. 8×91 720, 640, 500

2. $49 + 61$ 110, 130, 150

3. $722 \div 8$ 100, 90, 70

4. 6×79 400, 480, 500

5. $297 + 63$ 400, 350, 360

6. $141 - 39$ 180, 100, 60

7. $559 \div 7$ 70, 80, 90

8. 7×61 380, 420, 490

9. $79 + 42$ 100, 120, 150

10. $153 - 71$ 80, 90, 220

Fractions That Have the Same Meaning



Lines A, B, C, and D are all the same length. Line A stands for one whole thing.

1. Line B is divided into -----;
line C into -----; and
line D into -----.

Study the way in which lines A to D are divided. Then look at Ex. 2. Put \checkmark before it if it is correct. Do the same for Ex. 3 to 13.

- | | |
|--------------------------------|---------------------------------|
| 2. $\frac{2}{4} = \frac{4}{8}$ | 8. $\frac{4}{8} = \frac{1}{4}$ |
| 3. $\frac{1}{4} = \frac{1}{2}$ | 9. $\frac{2}{4} = \frac{1}{2}$ |
| 4. $\frac{6}{8} = \frac{3}{4}$ | 10. $\frac{3}{4} = \frac{5}{8}$ |
| 5. $\frac{1}{2} = \frac{4}{8}$ | 11. $\frac{3}{8} = \frac{1}{4}$ |
| 6. $\frac{3}{4} = \frac{3}{8}$ | 12. $1 = \frac{4}{4}$ |
| 7. $\frac{7}{8} = \frac{1}{2}$ | 13. $\frac{2}{4} = \frac{6}{8}$ |

Use the lines to help you finish these:

- | | | |
|---------------------------------|---------------------------------|---------------------------------|
| 14. $\frac{1}{2} = \frac{1}{4}$ | 16. $\frac{6}{8} = \frac{1}{4}$ | 18. $\frac{2}{8} = \frac{1}{4}$ |
| 15. $1 = \frac{1}{2}$ | 17. $\frac{2}{4} = \frac{1}{8}$ | 19. $\frac{2}{4} = \frac{1}{2}$ |

20. Circle the larger fraction in each pair. Use lines A to D to help you.

- | | | | |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| a. $\frac{1}{4}, \frac{3}{8}$ | b. $\frac{5}{8}, \frac{1}{2}$ | c. $\frac{8}{8}, \frac{3}{4}$ | d. $\frac{1}{4}, \frac{1}{8}$ |
| e. $\frac{1}{2}, \frac{1}{8}$ | f. $\frac{3}{4}, \frac{1}{2}$ | g. $\frac{2}{4}, \frac{7}{8}$ | h. $\frac{1}{2}, \frac{6}{8}$ |



21. Lines E, F, G, and H are the same length. Line F is divided into -----;
line G into -----; and line H into -----.

If Ex. 22 is correct, put \checkmark before it. Do the same for Ex. 23 to 27. Use lines E to H to help you.

- | | |
|---------------------------------|---------------------------------|
| 22. $\frac{1}{2} = \frac{3}{6}$ | 25. $\frac{2}{6} = \frac{1}{3}$ |
| 23. $\frac{1}{3} = \frac{1}{2}$ | 26. $\frac{5}{6} = \frac{2}{3}$ |
| 24. $\frac{4}{6} = \frac{2}{3}$ | 27. $\frac{1}{3} = \frac{4}{6}$ |

Finish the work in Ex. 28 to 33.

- | | | |
|---------------------------------|---------------------------------|---------------------------------|
| 28. $\frac{1}{2} = \frac{1}{6}$ | 30. $\frac{1}{3} = \frac{1}{6}$ | 32. $\frac{2}{3} = \frac{1}{6}$ |
| 29. $\frac{4}{6} = \frac{1}{3}$ | 31. $\frac{6}{6} = \frac{1}{3}$ | 33. $1 = \frac{1}{6}$ |

34. Circle the larger fraction in each pair. Use lines E to H to help you.

- | | | | |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| a. $\frac{1}{6}, \frac{1}{2}$ | b. $\frac{2}{3}, \frac{5}{6}$ | c. $\frac{3}{6}, \frac{1}{3}$ | d. $\frac{1}{2}, \frac{2}{6}$ |
| e. $\frac{1}{3}, \frac{1}{2}$ | f. $\frac{1}{2}, \frac{4}{6}$ | g. $\frac{4}{6}, \frac{1}{3}$ | h. $\frac{3}{3}, \frac{5}{6}$ |

35. Using all the lines (A to H), circle the larger fraction in each pair.

- | | | | |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| a. $\frac{1}{2}, \frac{5}{6}$ | b. $\frac{1}{4}, \frac{6}{6}$ | c. $\frac{1}{2}, \frac{7}{8}$ | d. $\frac{4}{6}, \frac{1}{4}$ |
| e. $\frac{7}{8}, \frac{1}{3}$ | f. $\frac{3}{4}, \frac{1}{3}$ | g. $\frac{2}{3}, \frac{2}{8}$ | h. $\frac{2}{2}, \frac{2}{3}$ |
| i. $\frac{1}{4}, \frac{2}{3}$ | j. $\frac{8}{8}, \frac{2}{3}$ | k. $\frac{5}{6}, \frac{3}{4}$ | l. $\frac{1}{3}, \frac{5}{8}$ |

Reducing Fractions to Lower Terms



1. What part of line A is very black? ----

What part of line B is very black? -----

2. Are the black parts the same in length?

----- Does $\frac{2}{4}$ of a thing equal $\frac{1}{2}$ of that thing? -----

3. In $\frac{2}{4}$, 2 and 4 are called terms. In $\frac{1}{2}$, the terms are ----- and -----.

4. When we change $\frac{2}{4}$ to the equal fraction $\frac{1}{2}$, we can say that we reduce $\frac{2}{4}$ to lower terms.

In lower terms, $\frac{4}{8} = \frac{\quad}{2}$ and $\frac{4}{6} = \frac{\quad}{3}$.

If a fraction cannot be reduced, we say that it is in lowest terms.

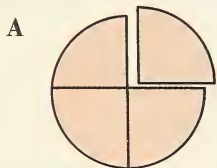
5. $\frac{1}{4}$ is in lowest terms. Is $\frac{1}{6}$ in lowest terms? ----- Is $\frac{2}{4}$? -----

Circle the fractions in lowest terms.

- | | | | |
|------------------|-------------------|-------------------|-------------------|
| 6. $\frac{2}{6}$ | 9. $\frac{6}{8}$ | 12. $\frac{2}{8}$ | 15. $\frac{1}{8}$ |
| 7. $\frac{1}{2}$ | 10. $\frac{3}{4}$ | 13. $\frac{7}{8}$ | 16. $\frac{5}{8}$ |
| 8. $\frac{3}{5}$ | 11. $\frac{1}{3}$ | 14. $\frac{3}{6}$ | 17. $\frac{1}{5}$ |

18. On these lines copy the fractions in Ex. 6 to 17 that are not in lowest terms. Then reduce the fractions.

Adding and Subtracting Like-Fractions



1. Picture A. 3 fourths of a cake and 1 fourth of the same cake make 4 fourths, or a whole cake.

3 fourths + 1 fourth = ---- fourths.

In $\frac{3}{4}$ and $\frac{1}{4}$ the size of one of the equal parts is the same, $\frac{1}{4}$, so $\frac{3}{4}$ and $\frac{1}{4}$ are like-fractions. We can add like-fractions.

Circle pairs of like-fractions.

2. $\frac{1}{3}, \frac{2}{3}$ 3. $\frac{3}{4}, \frac{4}{5}$ 4. $\frac{3}{8}, \frac{2}{8}$ 5. $\frac{2}{6}, \frac{2}{9}$

Finish these additions:

6. 2 fifths + 2 fifths = ---- fifths.

7. 3 eighths + 2 eighths = ---- eighths.

8. Picture B. To find how much of the pie is left, we can subtract.

6 sixths - 1 sixth = ---- sixths.

We can subtract like-fractions.

Finish these subtractions:

9. 3 fifths - 1 fifth = ---- fifths.

10. 7 eighths - 4 eighths = ---- eighths.

You can add and subtract like-fractions.

Practice in Adding and Subtracting Like-Fractions



1. If Jane cuts $\frac{1}{8}$ yard from a piece of cloth $\frac{7}{8}$ yard long, what part of a yard will be left?

Do the numbers $\frac{1}{8}$ and $\frac{7}{8}$ stand for parts of the same thing?

Are $\frac{1}{8}$ and $\frac{7}{8}$ like-fractions?

.....

Can we subtract like-fractions?

.....

7 eighths — 1 eighth = eighths

Add or subtract in Ex. 2 to 7. In each example, the fractions are parts of the same thing.

2. 3 fourths — 1 fourth = fourths

3. 2 fifths + 1 fifth = 3

4. 4 sixths minus 1 sixth = sixths

5. 3 ninths plus 5 ninths = ninths

6. 1 fifth and 3 fifths = fifths

7. 5 eighths — 2 eighths = 3

8. Jack ate 5 of the 8 equal parts of a chocolate bar. eighths were left.

9. Mother made 5 dozen cookies. She gave $\frac{2}{5}$ of them to the church fair and $\frac{2}{5}$ to Mrs. Brown. In all, she gave away fifths of the cookies.

Now write in figures your fraction answers for Ex. 1 to 9. When a fraction is not in lowest terms, write it again in lowest terms.

1. 2. 3.

4. 5. 6.

7. 8. 9.

The Signs Tell You What to Do

$$\begin{array}{r} 1. \quad 87 \\ \times 59 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 79 \\ \times 83 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad \$0.99 \\ \quad 0.85 \\ \quad 0.46 \\ \quad 0.40 \\ \hline + 0.93 \end{array}$$

$$\begin{array}{r} 4. \quad \$8.39 \\ - 5.37 \\ \hline \end{array}$$

$$5. \quad 7 \overline{)2,625}$$

$$6. \quad 8 \overline{)5,667}$$



Making Problems

For Ex. 1 to 8, write questions to make problems. In each exercise the letter tells you what kind of problem to make. Do not work your problems now.

1. The 20 boys in the fourth grade make 2 softball teams of the same size. D.

2. The distance around the bases on the softball field is 60 yards. (1 yd. = 3 ft.) M.

3. Ted can throw the ball 90 ft. That is 20 ft. farther than Bill can throw. S.

4. Dick's team played 40 minutes one day. Paul pitched $\frac{1}{5}$ of that time. D.

5. Don runs around the bases in 15 seconds. Bob takes 6 seconds longer. A.

6. In one game, Tom's team made 7 runs. Dick's team made 2 times as many. M.

7. In 7 games, Dick's team made a total of 56 runs. D.

8. Tom's team played 8 games in all and averaged 9 runs a game. M.

Work Ex. 1 to 8. Write answers here:

1. ----- 2. ----- 3. ----- 4. -----

5. ----- 6. ----- 7. ----- 8. -----

Remembering about Measures



1. a. 1 bu. = 4 pk., so 6 bu. = ----- pk.

b. 4 pk. = 1 bu., so 3 pk. = $\frac{3}{4}$ bu.

c. 4 c. = 1 qt., so 1 c. = $\frac{1}{4}$ qt.

d. 1 ft. = 12 in., so 7 ft. = ----- in.

e. 8 qt. = 1 pk., so 3 qt. = $\frac{3}{8}$ pk.

f. 3 ft. = 1 yd., so 2 ft. = $\frac{2}{3}$ yd.



2. Draw lines between things with the same meaning.

a

1 c.
 $\frac{1}{2}$ qt.
6 pt.
 $\frac{1}{4}$ gal.
12 qt.
3 pt.
2 gal.

1 pt.
1 qt.
 $\frac{1}{2}$ pt.
3 qt.
8 qt.
6 c.
3 gal.

b

1 pk.
3 bu.
1 qt.
 $\frac{3}{4}$ bu.
8 pt.
3 qt.
2 pk.

$\frac{1}{8}$ pk.
 $\frac{1}{4}$ bu.
3 pk.
4 qt.
12 pk.
16 qt.
6 pt.

c

3 in.
 $\frac{1}{2}$ ft.
1 yd.
24 in.
 $\frac{1}{3}$ yd.
18 ft.
4 yd.

$\frac{1}{4}$ ft.
2 ft.
36 in.
6 in.
12 ft.
6 yd.
1 ft.

Making Change for Large Bills

To make change in Ex. 1, the clerk started counting with the cost, \$1.38. He gave ----- cents and said, "\$1.39, \$1.40"; a ----- and said, "\$1.50"; then a half dollar and said, "----- dollars."

Show the change to be made in Ex. 2 to 6. Use the fewest coins for each example.

	Cost	Paid	Cents	Nickels	Dimes	Quarters	Half Dollars	Dollars
1.	\$1.38	\$2.00	2		/		/	
2.	\$1.63	\$2.00						
3.	\$0.98	\$2.00						
4.	\$4.32	\$5.00						
5.	\$3.68	\$5.00						
6.	\$2.17	\$5.00						

One-Step and Two-Step Problems

Put \checkmark before each 2-step problem.

---- 1. Three boxes hold 6 qt., 8 qt., and 10 qt. of cherries. They hold how many pecks of cherries in all?

---- 2. John had \$1.95. Uncle Fred gave him 3 quarters. Then John had how much in all?

---- 3. Three boys average 82 lb. in weight. In all, they weigh how many pounds?

---- 4. Mr. Tull earns \$9.75 a day. Last week he worked 5 days. How much did he earn?

---- 5. Lee stayed 84 days at Uncle Ed's farm. That was how many weeks?

---- 6. Tom weighs 53 lb., John weighs 80 lb., and Tony weighs 95 lb. Find their average weight.

---- 7. Ann sleeps $\frac{1}{3}$ of the hours in each day. How many hours does she sleep in a week?

---- 8. Mrs. Small set out 6 dozen little plants. All but 8 lived and grew. How many lived?

Find answers for problems 1 to 8. Write them here:

1. ----- 2. ----- 3. ----- 4. -----

5. ----- 6. ----- 7. ----- 8. -----

Can You Tell?

Draw a line under the words or numbers that will make Ex. 1 to 5 correct.

1. To find an average, you (divide, multiply) the total by the number of groups.

2. If Joe is $\frac{5}{6}$ as tall as Dick, then Dick is (taller, shorter) than Joe.

3. Line A is ($\frac{3}{4}$, $\frac{4}{5}$, $\frac{4}{7}$) as long as line B.



4. Line B is ($\frac{2}{3}$, $\frac{7}{9}$, $\frac{7}{8}$) as long as line C.

5. In a fraction, the larger the denominator, the (larger, smaller) is the size of one of the equal parts.

6. Which part of the same apple is larger:

a. $\frac{2}{3}$ or $\frac{5}{6}$? ----- b. $\frac{5}{8}$ or $\frac{1}{4}$? -----

7. Circle the fractions below that are in lowest terms.

$\frac{2}{5}$ $\frac{7}{8}$ $\frac{2}{4}$ $\frac{3}{6}$ $\frac{4}{5}$ $\frac{3}{4}$

8. Write in order the fractions between $\frac{1}{6}$ and $\frac{6}{6}$.

9. In the example $n \div 3 = 10$, the divisor is ----- The quotient is -----

The number that n stands for is -----

Finish Ex. 10 to 15.

10. $2 \text{ fifths} + 2 \text{ fifths} = \text{-----} \text{ fifths.}$

11. $7 \text{ ninths} - 4 \text{ ninths} = \text{-----} \text{ ninths.}$

12. $6 \text{ thirds} - 4 \text{ thirds} = \text{-----} \text{ thirds.}$

13. $2 \text{ wholes} = \frac{\quad}{5}$ 14. $3 \text{ wholes} = \frac{\quad}{4}$

15. The average of 6 numbers is 7.

Their total is -----.

16. In the space below, find the average of 5, 9, 11, and 7.

Practice in Addition and Subtraction

1.
$$\begin{array}{r} 8,098 \\ - 4,093 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 5,740 \\ + 2,268 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 4,585 \\ 709 \\ + 2,015 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 3,002 \\ - 856 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 1,821 \\ - 639 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 363 \\ 297 \\ + 808 \\ \hline \end{array}$$

Chapter Test 8

Do what the signs tell you to do. Check by doing the work again.

a
1.
$$\begin{array}{r} 8,416 \\ - 3,407 \\ \hline \end{array}$$

b
$$\begin{array}{r} 763 \\ \times 5 \\ \hline \end{array}$$

c
$$\begin{array}{r} \$64.08 \\ + 5.99 \\ \hline \end{array}$$

d
$$\begin{array}{r} \$5.30 \\ \times 9 \\ \hline \end{array}$$

e
$$\begin{array}{r} \$0.65 \\ \times 48 \\ \hline \end{array}$$

f
$$\begin{array}{r} 58 \\ \times 93 \\ \hline \end{array}$$

g
$$\begin{array}{r} 26 \\ \times 72 \\ \hline \end{array}$$

2.
$$\begin{array}{r} \$78.11 \\ - 3.49 \\ \hline \end{array}$$

$$\begin{array}{r} 507 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} \$50.00 \\ - 48.62 \\ \hline \end{array}$$

$$\begin{array}{r} 5,242 \\ - 4,738 \\ \hline \end{array}$$

$$\begin{array}{r} \$3.95 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 408 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} \$90.98 \\ + 6.31 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 98 \\ \times 61 \\ \hline \end{array}$$

$$5 \overline{)1,903}$$

$$\begin{array}{r} \$4.58 \\ 3.45 \\ 52.09 \\ + 20.87 \\ \hline \end{array}$$

$$7 \overline{)\$91.05}$$

$$\begin{array}{r} 48\text{¢} \\ 89\text{¢} \\ 53\text{¢} \\ 60\text{¢} \\ + 84\text{¢} \\ \hline \end{array}$$

$$8 \overline{)6,776}$$

$$4 \overline{)3,635}$$

Some Addition and Subtraction Facts

For practice, cover the answers and say the facts.

Addition

1.	$\begin{array}{r} 5 \\ + 5 \\ \hline 10 \end{array}$	$\begin{array}{r} 1 \\ + 8 \\ \hline 9 \end{array}$	$\begin{array}{r} 6 \\ + 7 \\ \hline 13 \end{array}$	$\begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array}$	$\begin{array}{r} 8 \\ + 9 \\ \hline 17 \end{array}$	$\begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array}$	$\begin{array}{r} 8 \\ + 3 \\ \hline 11 \end{array}$	$\begin{array}{r} 5 \\ + 9 \\ \hline 14 \end{array}$	$\begin{array}{r} 4 \\ + 6 \\ \hline 10 \end{array}$	$\begin{array}{r} 8 \\ + 8 \\ \hline 16 \end{array}$
2.	$\begin{array}{r} 6 \\ + 9 \\ \hline 15 \end{array}$	$\begin{array}{r} 3 \\ + 7 \\ \hline 10 \end{array}$	$\begin{array}{r} 8 \\ + 6 \\ \hline 14 \end{array}$	$\begin{array}{r} 5 \\ + 4 \\ \hline 9 \end{array}$	$\begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array}$	$\begin{array}{r} 3 \\ + 6 \\ \hline 9 \end{array}$	$\begin{array}{r} 8 \\ + 7 \\ \hline 15 \end{array}$	$\begin{array}{r} 7 \\ + 6 \\ \hline 13 \end{array}$	$\begin{array}{r} 2 \\ + 8 \\ \hline 10 \end{array}$	$\begin{array}{r} 7 \\ + 2 \\ \hline 9 \end{array}$
3.	$\begin{array}{r} 2 \\ + 9 \\ \hline 11 \end{array}$	$\begin{array}{r} 7 \\ + 7 \\ \hline 14 \end{array}$	$\begin{array}{r} 9 \\ + 8 \\ \hline 17 \end{array}$	$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$	$\begin{array}{r} 6 \\ + 4 \\ \hline 10 \end{array}$	$\begin{array}{r} 5 \\ + 8 \\ \hline 13 \end{array}$	$\begin{array}{r} 6 \\ + 3 \\ \hline 9 \end{array}$	$\begin{array}{r} 3 \\ + 8 \\ \hline 11 \end{array}$	$\begin{array}{r} 9 \\ + 9 \\ \hline 18 \end{array}$	$\begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array}$
4.	$\begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array}$	$\begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array}$	$\begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array}$	$\begin{array}{r} 9 \\ + 5 \\ \hline 14 \end{array}$	$\begin{array}{r} 4 \\ + 5 \\ \hline 9 \end{array}$	$\begin{array}{r} 7 \\ + 9 \\ \hline 16 \end{array}$	$\begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array}$	$\begin{array}{r} 4 \\ + 9 \\ \hline 13 \end{array}$	$\begin{array}{r} 2 \\ + 7 \\ \hline 9 \end{array}$	$\begin{array}{r} 6 \\ + 8 \\ \hline 14 \end{array}$
5.	$\begin{array}{r} 9 \\ + 7 \\ \hline 16 \end{array}$	$\begin{array}{r} 7 \\ + 3 \\ \hline 10 \end{array}$	$\begin{array}{r} 9 \\ + 2 \\ \hline 11 \end{array}$	$\begin{array}{r} 7 \\ + 8 \\ \hline 15 \end{array}$	$\begin{array}{r} 9 \\ + 4 \\ \hline 13 \end{array}$	$\begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$	$\begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array}$	$\begin{array}{r} 9 \\ + 6 \\ \hline 15 \end{array}$	$\begin{array}{r} 8 \\ + 5 \\ \hline 13 \end{array}$	$\begin{array}{r} 6 \\ + 6 \\ \hline 12 \end{array}$

Subtraction

1.	$\begin{array}{r} 8 \\ - 3 \\ \hline 5 \end{array}$	$\begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array}$	$\begin{array}{r} 17 \\ - 8 \\ \hline 9 \end{array}$	$\begin{array}{r} 13 \\ - 4 \\ \hline 9 \end{array}$	$\begin{array}{r} 9 \\ - 4 \\ \hline 5 \end{array}$	$\begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array}$	$\begin{array}{r} 15 \\ - 7 \\ \hline 8 \end{array}$	$\begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array}$	$\begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array}$	$\begin{array}{r} 14 \\ - 7 \\ \hline 7 \end{array}$
2.	$\begin{array}{r} 13 \\ - 8 \\ \hline 5 \end{array}$	$\begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array}$	$\begin{array}{r} 14 \\ - 5 \\ \hline 9 \end{array}$	$\begin{array}{r} 9 \\ - 3 \\ \hline 6 \end{array}$	$\begin{array}{r} 16 \\ - 9 \\ \hline 7 \end{array}$	$\begin{array}{r} 10 \\ - 6 \\ \hline 4 \end{array}$	$\begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array}$	$\begin{array}{r} 9 \\ - 2 \\ \hline 7 \end{array}$	$\begin{array}{r} 17 \\ - 9 \\ \hline 8 \end{array}$	$\begin{array}{r} 11 \\ - 2 \\ \hline 9 \end{array}$
3.	$\begin{array}{r} 10 \\ - 4 \\ \hline 6 \end{array}$	$\begin{array}{r} 15 \\ - 8 \\ \hline 7 \end{array}$	$\begin{array}{r} 13 \\ - 9 \\ \hline 4 \end{array}$	$\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$	$\begin{array}{r} 14 \\ - 8 \\ \hline 6 \end{array}$	$\begin{array}{r} 9 \\ - 6 \\ \hline 3 \end{array}$	$\begin{array}{r} 15 \\ - 9 \\ \hline 6 \end{array}$	$\begin{array}{r} 11 \\ - 8 \\ \hline 3 \end{array}$	$\begin{array}{r} 13 \\ - 6 \\ \hline 7 \end{array}$	$\begin{array}{r} 10 \\ - 5 \\ \hline 5 \end{array}$
4.	$\begin{array}{r} 13 \\ - 5 \\ \hline 8 \end{array}$	$\begin{array}{r} 10 \\ - 3 \\ \hline 7 \end{array}$	$\begin{array}{r} 16 \\ - 7 \\ \hline 9 \end{array}$	$\begin{array}{r} 10 \\ - 8 \\ \hline 2 \end{array}$	$\begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array}$	$\begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array}$	$\begin{array}{r} 9 \\ - 5 \\ \hline 4 \end{array}$	$\begin{array}{r} 18 \\ - 9 \\ \hline 9 \end{array}$	$\begin{array}{r} 9 \\ - 7 \\ \hline 2 \end{array}$	$\begin{array}{r} 14 \\ - 9 \\ \hline 5 \end{array}$
5.	$\begin{array}{r} 11 \\ - 3 \\ \hline 8 \end{array}$	$\begin{array}{r} 14 \\ - 6 \\ \hline 8 \end{array}$	$\begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array}$	$\begin{array}{r} 13 \\ - 7 \\ \hline 6 \end{array}$	$\begin{array}{r} 11 \\ - 9 \\ \hline 2 \end{array}$	$\begin{array}{r} 16 \\ - 8 \\ \hline 8 \end{array}$	$\begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array}$	$\begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array}$	$\begin{array}{r} 15 \\ - 6 \\ \hline 9 \end{array}$	$\begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$

Multiplication Facts

For practice, cover the answers and say the facts.

1.	1	2	3	4	5	6	7	8	9
	$\times 1$	$\times 1$	$\times 1$	$\times 1$	$\times 1$	$\times 1$	$\times 1$	$\times 1$	$\times 1$
	1	2	3	4	5	6	7	8	9

2.	1	2	3	4	5	6	7	8	9
	$\times 2$	$\times 2$	$\times 2$	$\times 2$	$\times 2$	$\times 2$	$\times 2$	$\times 2$	$\times 2$
	2	4	6	8	10	12	14	16	18

3.	1	2	3	4	5	6	7	8	9
	$\times 3$	$\times 3$	$\times 3$	$\times 3$	$\times 3$	$\times 3$	$\times 3$	$\times 3$	$\times 3$
	3	6	9	12	15	18	21	24	27

4.	1	2	3	4	5	6	7	8	9
	$\times 4$	$\times 4$	$\times 4$	$\times 4$	$\times 4$	$\times 4$	$\times 4$	$\times 4$	$\times 4$
	4	8	12	16	20	24	28	32	36

5.	1	2	3	4	5	6	7	8	9
	$\times 5$	$\times 5$	$\times 5$	$\times 5$	$\times 5$	$\times 5$	$\times 5$	$\times 5$	$\times 5$
	5	10	15	20	25	30	35	40	45

6.	1	2	3	4	5	6	7	8	9
	$\times 6$	$\times 6$	$\times 6$	$\times 6$	$\times 6$	$\times 6$	$\times 6$	$\times 6$	$\times 6$
	6	12	18	24	30	36	42	48	54

7.	1	2	3	4	5	6	7	8	9
	$\times 7$	$\times 7$	$\times 7$	$\times 7$	$\times 7$	$\times 7$	$\times 7$	$\times 7$	$\times 7$
	7	14	21	28	35	42	49	56	63

8.	1	2	3	4	5	6	7	8	9
	$\times 8$	$\times 8$	$\times 8$	$\times 8$	$\times 8$	$\times 8$	$\times 8$	$\times 8$	$\times 8$
	8	16	24	32	40	48	56	64	72

9.	1	2	3	4	5	6	7	8	9
	$\times 9$	$\times 9$	$\times 9$	$\times 9$	$\times 9$	$\times 9$	$\times 9$	$\times 9$	$\times 9$
	9	18	27	36	45	54	63	72	81

Division Facts

For practice, cover the answers and say the facts.

1. $1\overline{)1}$ $1\overline{)2}$ $1\overline{)3}$ $1\overline{)4}$ $1\overline{)5}$ $1\overline{)6}$ $1\overline{)7}$ $1\overline{)8}$ $1\overline{)9}$

$2\overline{)2}$ $2\overline{)4}$ $2\overline{)6}$ $2\overline{)8}$ $2\overline{)10}$ $2\overline{)12}$ $2\overline{)14}$ $2\overline{)16}$ $2\overline{)18}$

3.

3. $3\overline{)3}$ $3\overline{)6}$ $3\overline{)9}$ $3\overline{)12}$ $3\overline{)15}$ $3\overline{)18}$ $3\overline{)21}$ $3\overline{)24}$ $3\overline{)27}$

4. $4\overline{)4}$ $4\overline{)8}$ $4\overline{)12}$ $4\overline{)16}$ $4\overline{)20}$ $4\overline{)24}$ $4\overline{)28}$ $4\overline{)32}$ $4\overline{)36}$

5. $5\overline{)5}$ $5\overline{)10}$ $5\overline{)15}$ $5\overline{)20}$ $5\overline{)25}$ $5\overline{)30}$ $5\overline{)35}$ $5\overline{)40}$ $5\overline{)45}$

6. $6\overline{)6}$ $6\overline{)12}$ $6\overline{)18}$ $6\overline{)24}$ $6\overline{)30}$ $6\overline{)36}$ $6\overline{)42}$ $6\overline{)48}$ $6\overline{)54}$

7. $7\overline{)7}$ $7\overline{)14}$ $7\overline{)21}$ $7\overline{)28}$ $7\overline{)35}$ $7\overline{)42}$ $7\overline{)49}$ $7\overline{)56}$ $7\overline{)63}$

8. $8\overline{)8}$ $8\overline{)16}$ $8\overline{)24}$ $8\overline{)32}$ $8\overline{)40}$ $8\overline{)48}$ $8\overline{)56}$ $8\overline{)64}$ $8\overline{)72}$

9. $9\overline{)9}$ $9\overline{)18}$ $9\overline{)27}$ $9\overline{)36}$ $9\overline{)45}$ $9\overline{)54}$ $9\overline{)63}$ $9\overline{)72}$ $9\overline{)81}$

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teaching the text page listed just previously.

WORKBOOK PAGES	TEXTBOOK PAGES	WORKBOOK PAGES	TEXTBOOK PAGES	WORKBOOK PAGES	TEXTBOOK PAGES
1	*	36 (bottom)	84-85	70-71	172-
2	1-5	37 (top)	86	71 (bottom)	174-
3	*	37 (bottom)	*	72	
4	6-7	38-39	88-89	73	
5	8-10	39 (bottom)	90-91	74	178-181
6	11-12	40 (top)	*	75	183
7 (top)	13-14	40 (bottom)	92	76-77	184-186
7 (bottom)	*	41 (top)	93	77 (bottom)	*
8	15-16	41 (bottom)	*	78-79	187-190
9	17	42	97-101	80 (top)	190-191
10	19-20	43	103	80-81	*
11	*	44	104-107	81 (bottom)	192-193
12	24-25	45	108-111	82	*
13	26-29	46	112-113	83 (top)	194-195
14	30	47		84 (bottom)	*
15 (top)	31	48		85	196-197
15 (bottom)	*	49		86	198-199
16	34-35	50		87	*
17 (top)	*	51		88	200-201
17-18	36		1.	89	*
18 (bottom)	37	(top)		90	202-203
19	39-40	(bottom)		91	204-205
20 (top)	41	55	130-1	92	206-207
20-21	42-43	(top)		93	208-209
21 (bottom)	44-47		134-1	94	210-211
22	49-51	(bottom)		95	*
23	52-53	(top)	136-1	96	212-213
24-25	54-56	(bottom)	140-1	97	214-215
25 (bottom)	57-59	(bottom)		98	216-217
26	60-61	60	146-149	99 (bottom)	218
27 (top)	62-63	61	152-153	99 (top)	219-220
27 (bottom)	*	62	154-157	99 (bottom)	221
28	64-65		*	100	222-223
29	67-68		*	100 (bottom)	224
30	69-70		158-162		
31-32	*				
32 (bottom)	74				225-226
33	75-76				*
34 (top)	77	68 (bottom)			227-228
34 (bottom)	78-79	69 (top)	169	105	242-243
35-36	80-82	69-70	170-171	106	245-247



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